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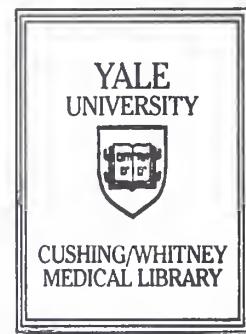
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THE MING DYNASTY:
A RENAISSANCE IN MEDICAL THOUGHT

SHIH-YIN HO

Yale University

1996



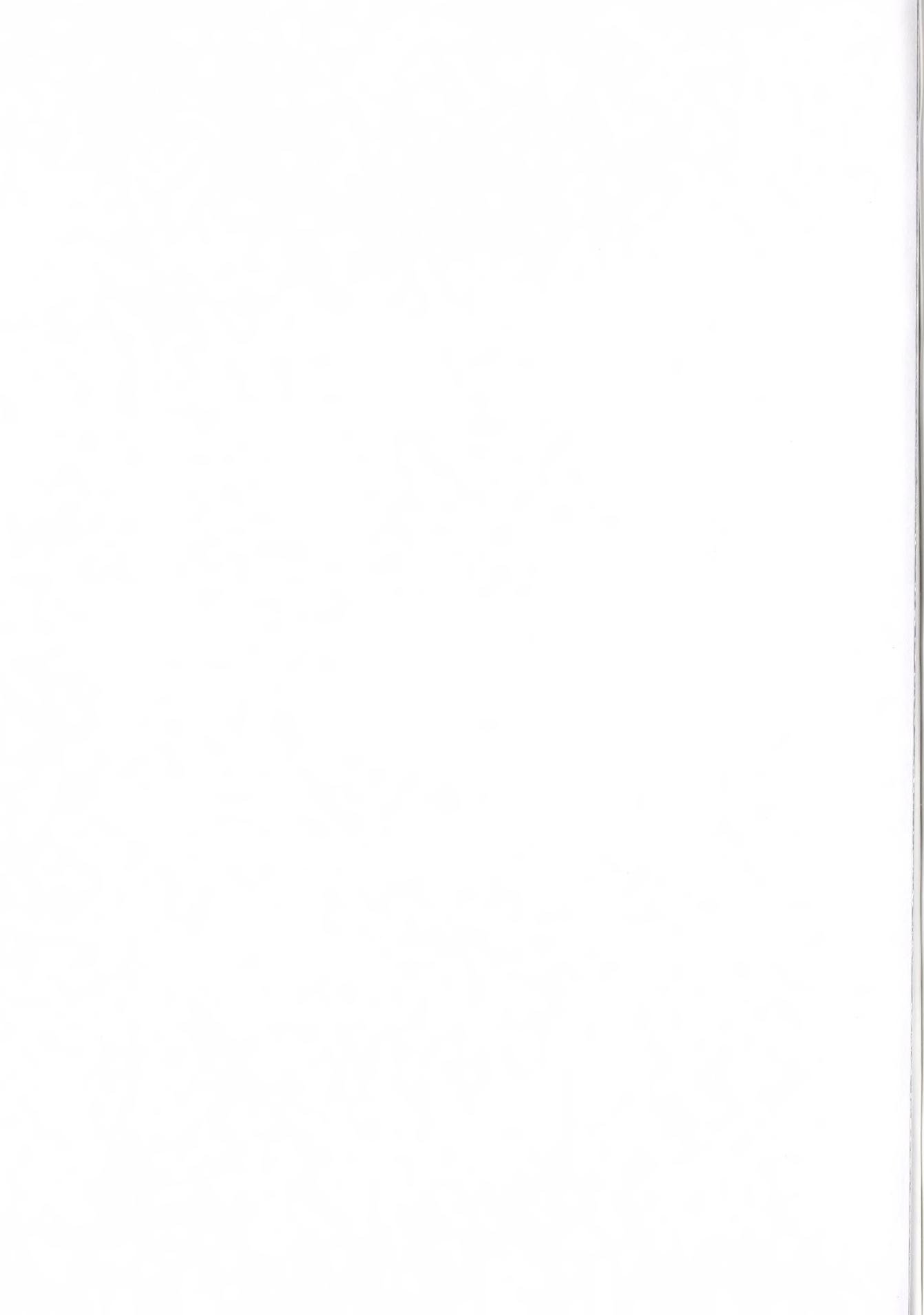
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THE MING DYNASTY:

A RENAISSANCE IN MEDICAL THOUGHT

A Thesis Submitted to the
Yale University School of Medicine
in Partial Fulfillment of the Requirements for the
Degree of Doctor of Medicine

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ABSTRACT

THE MING DYNASTY: A RENAISSANCE IN MEDICAL THOUGHT.

Shih-Yin Ho (Sponsored by William C. Summers, Department of History of Medicine) Yale University, School of Medicine, New Haven, CT.

Medicine in China has generated great interest in the West ever since trade routes and explorers linked Europe with China as early as the thirteenth century. Yet, determining the exact nature of medicine in China has proved to be a complex task, due to the diverse and nonlinear evolution of its conceptual systems. By examining medical thought within the sociopolitical and socioideological context of Chinese civilization, one gains a better understanding for how distinctly separate systems of medical ideas could coexist. This paper explores the period of the Ming Dynasty (1368-1644) and demonstrates the diversity of conceptual systems which characterized medical thought. This was an era of intellectual revival, creativity, and philosophical upheaval which witnessed a renewal in different medical theories and practices, the result of many physician-scholars who interpreted, criticized, and added to the classics of orthodox medicine. There also emerged scores of publications, a reawakening of philosophical thinking, and a redefining of political, social, and religious concepts which had been neglected in the past.

Drawing on Ming diaries, journals, and casebooks from the China Academy of Traditional Chinese Medicine in Beijing, China as well as analogies from contemporary historians, this paper defines medical thought along five different lines of conceptual approaches including: adaptations of conventional theory, etiological principles, a return to classics, medicine of

“common physicians”, and an impact from foreign influence and advances in medicine. The spectrum encompassed reinterpretations of the classics, conventional orthodoxy, supernatural or metaphysical concepts, demonology, and pragmatic experience as well as intellectual, politico-economic, and social influences. Interestingly, as each decade passed, there emerged an increasing divergence of ideas in which no one theory gained dominance. Nonetheless, this period which witnessed the publication of the most celebrated comprehensive pharmacopoeia, the use of general anesthesia, and challenges to orthodox thinking was indeed a renaissance in medical philosophy.



"I'm afraid a house call is out of the question just now, Comrade Koo. Try pushing the needle in a bit farther, wiggling it as you do so, and if the pain persists call me in the morning."

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Introduction

Medical Thought in China:

Medicine in China has always generated great interest in the West, ever since trade routes and explorers linked Europe with China¹ as early as the thirteenth century. Yet, determining the exact nature of medicine in China has proved to be a complex task, largely due to the diverse and nonlinear evolution of the conceptual systems which existed throughout its history. Historians and scholars have continually attempted to dissect and define “Chinese medicine” by tracing the course, influences, and content of medical thought. By depicting medical thought in its historical and sociopolitical context, one hopes to gain a clearer understanding of the beliefs, theories, practices, and guidelines under which the tradition of health care operated.

According to medical historian Paul Unschuld, the study of “Chinese medicine” and medical thought has become quite popular in the West over the years with a steadily increasing number of scholarly publications devoted to the topic.² Unschuld identifies three different approaches to its study and interpretation.³ The first one, which tried to elucidate Chinese concepts of illness and therapy, tended to depict these concepts within a single coherent system. Most writers who took this approach, however, tended to focus on only one distinct conceptualized system of therapy, the medicine of systematic correspondence.⁴ Focusing on only one conceptual system neglects the ever-changing interpretations of medical paradigms as well as ignores the

¹ Unschuld, Paul U. *Medicine in China: A History of Ideas*. University of California Press. Berkeley and Los Angeles, CA. 1985. p.1.

² *Ibid.*

³ *Ibid.* pp. 2-4.

⁴ *Ibid.* p. 2.; systematic correspondence, see glossary

multitude of differing yet coexisting opinions.⁵ The second approach, writes Unschuld, sought to explain Chinese medicine in the context of Western “scientific” knowledge. The proponents of this view often utilized selected historical events in order to emphasize the aspects of medical thought meaningful to Western medical practitioners,⁶ presenting yet again only a partial picture. The third approach, mainly undertaken by medical anthropologists, tried to include the diversity of distinctly conceptualized systems of therapy by portraying medical thought in the context of a cultural system.⁷ While this approach may seem to be more comprehensive, it unfortunately is unable to take adequately into account the complexity and intracultural diversity of Chinese civilization and history.⁸ That is, it is difficult to sustain the idea of medical thought representative of a single cultural framework, when there exists such a plurality of cultures and philosophies in a complex society such as China's.

A better approach may be to examine medical thought in the sociopolitical and socioideological context of that civilization. In other words, attempt to understand the conditions under which diverse philosophies could arise as well as the circumstances in which differing opinions could coexist. By assessing medical thought in a historical as well as cultural context, one may achieve an understanding for how distinctly separate systems of medical ideas could coexist and interact.

The writings of Chinese civilization have revealed to scholars and historians a wealth of primary sources which reflect concern about the

⁵ Unschuld. 1985. p. 2.

⁶ Ibid. pp. 2-3.

⁷ Ibid. p. 3

⁸ Ibid.

experience of human disease starting from the fifteenth century B.C.⁹ Over this long history, the conceptual systems which developed included oracular medicine, demonic medicine, religious healing, pragmatic drug therapy, Buddhist medicine, the medicine of systematic correspondence, and medicine from foreign cultures (including Western medicine).¹⁰ This paper focuses mainly on medical thought during the Ming Dynasty (1368-1644), a period in which a relative political and economic stability gave rise to an era of creativity and reinterpretation in philosophy, the arts, and medical thought. A distinct feature of this epoch was an array of coexisting ideologies, of which no one theory would gain enough credibility to stand as the dominant theoretical system.¹¹

What circumstances allowed the flourishing of such different ideologies, the reinterpretations of traditional medical thinking, without a generally recognized doctrine of medical thought? What political, religious, and intellectual conditions would have shaped such a course? What influence did the interplay of these forces have on medical thought and what influence did medical thought have on these aspects of society?

This paper explores the sociopolitical context of the Ming Dynasty which gave birth to this era of creativity, while demonstrating the wealth of diverse conceptual systems and philosophical directions which made up the fabric of Ming medical thought. This paper draws on several Ming primary sources as well as analyses by contemporary historians and medical scholars, including: Judith Berling, Richard Davis, Wm. Theodore deBary, John K. Fairbank, Jacques Gernet, Jingwei Li, Franz Michael, Joseph Needham, and

⁹ Unschuld. 1985. p. 4.

¹⁰ Ibid.

¹¹ Ibid. p. 228.

Paul Unschuld.

The Ming Dynasty:

The Ming Dynasty (1368-1644) was a time of revived nationalism and restoration in China.¹² Prior to it, China had been conquered and ruled by the Mongols from 1279-1351 (Yuan Dynasty).

The End of Mongol Reign and the Beginning of the Ming

During the Yuan Dynasty (1279-1351), the Chinese were for the first time completely conquered by foreign rule and excluded from the aristocracy. The Mongols, although great warriors having amassed the largest territory in world history, were enchanted by the Chinese sedentary lifestyle and its many customs and traditions. And although they emerged perhaps less assimilated than other foreigners, they nevertheless embraced the trappings of Chinese customs while trying to maintain an autonomous identity. The Mongols insisted on strict segregation of races and prohibited Mongolians from learning the Chinese language, establishing Mongolian as the official language. The Mongols, however, saw the great economic potential of a highly cultured society and sought to stimulate commerce through trade rather than agriculture. By turning over China's most prosperous commerce to the minority groups in middle Asia (Uighurs), establishing guilds as commercial organizations closed to the Chinese, reviving government run monopolies on commodities such as precious metals, liquor, iron, salt, and vinegar, and setting high taxes on non-government items of sales as well as transportation, the Mongols ultimately devastated indigenous commerce,

¹² Fairbank, John K. and Reischauer, Edwin O. China: Tradition and Transformation. Houghton Mifflin Company. Boston, Massachusetts. 1989. p. 177.

leaving many Chinese poverty-stricken.¹³

Rebellion against Mongolian rule came from both the scholar-gentry class and the peasantry and merchant classes. For the scholar-gentry, there was anger at being excluded from many government positions, as well as an unsettled feeling that a "barbarian group" was in control of their civilized society. The scholar-gentry class had originally assumed Mongol Rule would be transitory and were at first content to await the revival of majority rule. However, continued alienation from government posts soon forced this class to withdraw their services altogether from the empire, particularly in the South. Perhaps one of the reasons for the short-lived Mongol rule was the lack of administrative talent to run the overwhelming bureaucracy of Chinese government.¹⁴ In addition, the inner court of the Yuan itself was weakened by court factionalism, conflicts, and rivalries.¹⁵

For the peasantry and merchant classes, the anger was aimed at high taxation, restriction of entry into the merchant guilds, and government monopolies. Although the final rebellion which ended the Yuan dynasty was not initially a unified movement, but a series of random outbreaks in areas where conditions had become intolerable, the uprisings were directed at both the foreign conqueror and the Chinese landlords who had collaborated with the oppressive Mongol rule.

In 1351 when the Yellow River broke its dikes, hundreds of farmers suffered from the flooding. This natural disaster, coupled with the continued heavy taxation, crippled and angered the peasants. Chu Yuan-chang (1328-1398), a landless peasant and monastic student, who had joined the rebellion

¹³ Davis, Richard. Lecture notes from "Introduction to East Asian Civilizations: China", taught at Brown University, Providence, R.I. (fall, 1990). "Aliens Who Would Be King" lecture.

¹⁴ Ibid.

¹⁵ Unschuld. 1985. p. 189.

when his monastery was destroyed, emerged as the primary rebel leader in 1356, when he captured Nanjing and made it his capital. Over the next decade, he systematically continued to destroy Mongol strongholds until he declared himself Emperor of China in 1368. Within two decades, a street beggar had been elevated to the emperor of all China and the emergence of despotic rule was to begin.¹⁶

Emperor Hung-wu

Although of little education, Chu (reign title Hung-wu "Vast military power" emperor) was a man of extraordinary capabilities in the area of management. The condition of the country at the beginning of his reign was one of economic chaos. The empire had been ruined by Mongol exploitation and the destruction from the war, leaving agriculture and irrigation in a state of ruin.¹⁷ A major effort to restore agriculture and irrigation characterized Emperor Hung-wu's reign. He reorganized and established regional and provincial administrations, revived and rebuilt the irrigation works and agricultural production, and established bases of regional defense throughout China.

According to Gernet, the priority on reestablishing an agrarian economy may have been both a necessity and a deliberate choice.¹⁸ The most urgent need was to ensure a food supply for the population, but at the same time, a new direction was taken: the Ming and later Ch'ing (1644-1911) empires were to be mainly based on agriculture, very different from the commercial and mercantile economy of the Sung (960-1279) and Yuan

¹⁶ Davis. 1990. "Emergence of Despotic Rule" lecture.

¹⁷ Gernet, Jacques. (translated by J.R. Foster). A History of Chinese Civilization. Cambridge University Press. Cambridge, England. 1982.

¹⁸ Ibid. p.391.

Dynasties.

The Ming Dynasty was founded by a peasant who seems to have felt either an instinctive mistrust or a general dislike of the literati (the scholar-gentry class).¹⁹ This “mistrust” impelled him to centralize his bureaucratic power in perhaps the strongest form of absolutism ever seen in Chinese government. The founder of the Ming Dynasty was characterized as an illiterate²⁰ but skilled tactician. Subject to fears and suspicions,²¹ he became more ill at ease with, and mistrustful of, the scholar-official. For example, to ferret out one dissident, he allowed the killing of many others.²² His thirty-year reign was marked by the murder of the Imperial Secretariat (the central administrator in past eras) and purging all his associates and family members, abolition of the position of Imperial Secretariat to further augment the power of the emperor, institutionalization of court floggings, and extension of punishments to a suspect’s family and associates (e.g. 9 clans: all descendants from an unfavored’s great great grandfather would be put to death).

Court Struggles

The scholar-gentry class, although facing Hung-wu’s hostility, continued to remain as officials in the court. In later reigns, however, this group would see the demise of their roles as chief ministers and heads of the Chinese bureaucracy. Many of their functions and positions were to be filled by eunuchs of the court.

Eunuchs were traditionally young adolescents chosen at an early age and castrated so that they could be used by the imperial household to guard

¹⁹ Gernet. 1982. p. 393.

²⁰ Fairbank. 1989. p. 182.

²¹ *Ibid.*

²² Davis. 1990. “Emergence of Despotic Rule” lecture

the quarters for the various wives and consorts of the emperor and prevent the possibility of illegitimate heirs from secret liaisons. It was believed that without familial ties, they would be the most trustworthy servants of the emperor. However, such a situation also allowed eunuchs to be unencumbered by any other loyalties, and they could seek to benefit themselves without risk. Emperor Hung-wu, having realized this possible threat, decreed that eunuchs were to be banned from power in the administration, forbidden from handling documents, and kept illiterate.²³ Nevertheless, later Ming emperors would support the institution of eunuchs as an integral part of the Inner Court and begin to confer greater power to this group. These emperors while growing up in the Inner Court were often personally devoted to the eunuchs who were their childhood companions. These ties of affection would later translate into a proliferation of power for the eunuchs. By the 1420's, a palace school was established to educate this group.

Hung-wu's successors continued to be influenced and eventually ruled by these self-same servants of the court. The trust originally invested in the scholar-officials became redirected toward the eunuchs, who were considered of low peasantry ancestry by the literati. This state of affairs resulted in a constant struggle between the two groups for access to the emperor.²⁴ Several of the eunuchs appointed to key positions, both military and maritime, would misuse this power, leading to mass-scale corruption, escalating the struggle. Tactics exercised by this group included use of secret police, sabotage, and bribery²⁵, which coupled with the lavish spending habits

²³ Fairbank. 1989. p. 182.

²⁴ Ibid. p. 183.

²⁵ Gernet. 1982. pp. 406-407.

of later emperors would undermine the government, deplete the treasury, and result in heavy taxation for the farming population.²⁶

The arbitrariness of the emperor's rule was to manifest itself in brutal forms of torture and intimidation.²⁷ Chu's descendants continued to exercise the absolutism established by Hung-wu, but lacking Chu's political acumen and often elevated to the throne as children, they quickly came under the domination of court factions, resulting in reckless and self-indulgent behavior.²⁸ The continued corruption, greed, and depletion of the treasury by emperors and eunuchs alike weakened China so much that a new insurgency of foreign invaders from the North was to overtake and finally rule the Chinese in the seventeenth century, marking the end of the Ming Dynasty in 1644.

Economic Prosperity and Revival of Intellectual Activity and the Arts

Oddly enough, the despotic rule of the Ming Dynasty created a remarkable stability which allowed the flourishing of what can be considered one of the most creative and stimulating periods in the history of Chinese thought.²⁹ The scholar-gentry who had been excluded from official positions during Mongol rule found themselves again deprived of these positions as the court increasingly came under the control of the eunuchs. Fairbank writes:

The unconfined power of the emperor and the factionalism of officials were active mainly at the level of the imperial bureaucracy, which was spread very thinly over the empire. At the local level was a stable social order in which the

²⁶ Davis. 1990. "Emergence of Despotic Rule" lecture.

²⁷ Fairbank. 1989. pp. 183-184.

²⁸ Davis. 1990. "Emergence of Despotic Rule" lecture.

²⁹ DeBary, Wm. Theodore. Self and Society in Ming Thought. Columbia University Press. Berkeley and Los Angeles, CA. 1985. p. 3.

emperor's power was held in reserve and seldom exercised.³⁰

Hence, despite the autocratic rule and the struggle for power among the officials and the eunuchs at the central court of the Emperor, the Ming Dynasty was a favorable time for pursuits in scholarship and the arts.³¹ Since the scholar-gentry were meeting a great deal of hostility in the court, the move to independent thinking and its moral superiority over submission to the authority of the court became a prominent part of the scholarly creed.

Economically, it was a time of urban prosperity and luxury, especially in the lower Yangtze region (a center of agricultural and commercial wealth). The cultural and merchant elites were able to enjoy life in an unprecedented style leading to an artistic appreciation which manifested itself in the creation of the famous gardens in southern China, the building of architectural monuments, and the new developments in crafts such as tapestry, calligraphy, and porcelain.

An Urban Literature

Accompanying the affluence of these towns and the emergence of a new middle class consisting of independent scholars, merchants, and manufacturers, there appeared a widespread literacy of a different nature. The climate was favorable for the first time in Chinese history to a new form of writing: the prose novel. Up until this time, almost all literature was written by the literati, for the literati, in what is often referred to as classical Chinese. Classical Chinese was a written language accessible only to the educated, differing quite remarkably from popular spoken language. For the

³⁰ Fairbank. 1989. p. 184.

³¹ Gernet. 1982. p. 438.

first time, books were being written in the vernacular, addressed to an urban public avid for entertainment and not well-educated.³² Starting in the mid to latter part of the sixteenth century, the progress of printing and wood engraving gave rise to a rapid increase in the number of inexpensive publications.³³ Romantic literature at the end of the Ming began to display certain features which “can really only be explained by a profound evolution in manners” where imagination and plot played a much larger role than in the works from the fourteenth century.³⁴

These stylistic changes were exhibited in four novels written during the Ming and which are considered four of the five most popular fictional works in all of Chinese history: *San kuo yen i*, “The Romance of the Three Kingdoms”, *Shui hu chuan*, “The Water Margin”, *Chin p'ing mei*, “The Golden Lotus”, and *Hsi yu chi*, “A Journey to the West”. *San kuo yen i*, written by Lo Kuan-chung, is a historical novel about three warring states which emerged after the fall of the Han Dynasty (206 B.C.- A.D. 220). This is a complex book full of stories and peopled with kings, courtiers, peasants, soldiers, sorcerers, and scholars in which the themes of power, loyalty, and social obligation are replayed again and again.³⁵ Three sworn friends and their rivalry with the Imperial Chancellor, Ts'ao Ts'ao (all four characters were real historical figures) make up the heart of this story. *Shui hu chuan* by Shih Nan-an has often been called the “Robin Hood adventures” of Chinese literature. It is about a rebel band of 108 different “heroes” who are led by Sung Jiang (another historical figure) whose adventures bring them

³² Gernet. 1982. p. 446.

³³ Ibid.

³⁴ Ibid.

³⁵ Roberts, Moss. Introduction to the translation of *Three Kingdoms, China's Epic Drama* by Lo Kuan-chung. Pantheon Books. New York, New York. 1976. p. xix.

together as a group against the corrupt imperial government of the Sung Dynasty (960-1279). Gernet writes that the authors for these works belonged to that class of jobless literati who existed by means of various expedients.³⁶ Yet these novels, using the context of past dynasties, actually reflect a social mistrust of government and the moral fiber of its leaders. These popular novels served as a vehicle for both political and social criticism, and reflected the scholarly creed of moral superiority over submission to court authority. For *San kuo yen i*, primary questions such as what determines the source of political legitimacy, and whether political legitimacy is a genetic right or based on some higher virtue, are posed.³⁷

The novels *Hsi yu chi* and *Chin p'ing mei* were written during the latter part of the Ming Dynasty. *Hsi yu chi*, written by Wu Ch'en-en and published around 1570, is a story about the adventures of the monk Hsuan-tsang and his four disciples, particularly the monkey Sun Wu-k'ung, during the course of their pilgrimage to India in search of the scriptures of Buddha. Hsuan-tsang, a historical figure in China, was a Buddhist monk who lived during the Tang Dynasty (618-907) and made a pilgrimage to India where he obtained Buddhist scriptures and translated them into Chinese. The story which tells this historical event is mixed with humor and fantasy, involving four mythical disciples and all the deities and myths of Chinese folklore. *Chin p'ing-mei* written by Shih Men Ch'ing (circa 1619) is about a character from Shih Nai-an's *Shui hu chuan*. This character was a rich merchant of Shantung whose love affairs and many wives and consorts make up the fabric of this story. While the intimate details could be considered quite explicit, this story has been considered the first novel in history written about

³⁶ Gernet. 1982. p. 446.

³⁷ Roberts. 1976. introduction. p. xxii.

manners.³⁸

Social Forces- A Historical Overview

Development of Medical Thought

The earliest evidence of medicine, or the concept and experience of illness, was from the second millennium B.C. when ancestors were believed to be responsible for both individual and social ills. There is also evidence from the oracle bones³⁹ dating back to the eleventh century B.C., that natural elements were also considered to be causative agents of illness. By the first millennium B.C., the belief that spirits outside of ancestors were responsible for all ills brought forth "experts" who could combat these "demons". In essence, physicians were "social agents responsible for recreating harmony between two groups of beings coexisting with each other."⁴⁰ It is also interesting to note that the manuscripts from the Ma-wang-tui tombs of the early second century B.C. provide evidence that an independent idea from metaphysical beliefs was also under development, namely the structure of systematic correspondence. During the second and first centuries B.C., a collection of texts called the *Huang-ti nei-ching*, or the Emperor's Handbook of Internal Medicine, was compiled and showed a "consistent application of a non-metaphysical body of natural laws to an understanding of health, illness,

³⁸ Gernet. 1982. p. 448.

³⁹ Oracle bones were inscriptions found on ox bones and tortoise shells from the Shang Dynasty (circa sixteenth-eleventh century B.C.) in which kings wrote prayers to ancestors for protection and to invoke their aid to foresee the future. These inscriptions are also the earliest examples of Chinese writing.

⁴⁰ Unschuld, Paul U. "Traditional Chinese Medicine: Some Historical and Epistemological Reflections". Social Science and Medicine. Pergamon Journals, Ltd. Great Britain. Vol 24, No. 12. 1987. p. 1023.

and disease.⁴¹ What is interesting about these different ideas is that although there seemed to be a transition from one belief system to another in search for the explanation of illness, the older ideas never were totally eliminated.⁴²

In fact, further sets of ideas and practices were derived, accepted, and even integrated with the older ideas of ancestral and supernatural forces. These ideas included Buddhist notions, Taoist religious concepts, and Confucian morals as well as pharmacotherapy. The interplay of these systems was such that although each had theories regarding the origin, nature, therapy, and prevention of illness, no one system was completely dominant at any time. Rather, each system influenced the others, so that what is often considered "orthodox Chinese medicine" was a complex of different healing concepts.

Religious and Philosophical Differences and Syncretism

From as early as the Chou Dynasty (1027-770 B.C.), there arose a competition between religious forces and intellectual influences in which the fundamental patterns of interactions were established and continued to influence religious thought throughout Chinese history.⁴³ Syncretism was limited early on due to this competitive atmosphere in which the champions of different belief systems vied for the favor of the imperial government, namely the emperor. But starting with the Sung Dynasty through the Ming, syncretism became an increasingly powerful force in which a confluence of religious thought came into being as Buddhists, Taoists, and Confucians

⁴¹ Unschuld. 1987. p. 1024.

⁴² Ibid.

⁴³ Berling, Judith A. The Syncretic Religion of Lin Ch'ao-en. Columbia University Press. New York, New York. 1980. p. 32.

reexamined the basis of their traditions.⁴⁴

Buddhism

Buddhism was introduced to China from India in 64 A.D. as the result of a dream by the second emperor of the Later (or Eastern) Han (8-220 A.D.), Ming Ti. Although this story is somewhat apocryphal, there was indeed a Buddhist group at the court in the lower Yangtze Valley at that time and by the next century had become entrenched in what is today northern Vietnam.⁴⁵ Adopted quickly by the Chinese, Buddhism soon became a major religious force, prospering by the time of the T'ang Dynasty⁴⁶ and boasting a countless number of temples, images of Buddha, libraries, and monasteries throughout the Chinese countryside. The practice and belief system of Buddhism varied significantly among the several philosophical sects which developed in different regions of the country. These sects often busied themselves discussing the merits of scripture, ritual and learning. But starting around the end of the T'ang, Buddhism fell out of favor with the imperial government and lost its intellectually dominant position as a result. By the end of this dynasty, persecutions were widespread while temples were razed and the population of monks and nuns decimated.⁴⁷ By the beginning of the Sung Dynasty, the sole survivor was the Ch'an school of meditation,⁴⁸ which claimed that the rituals and scriptures associated with the religion were secondary to the practice of meditation, which would lead to enlightenment. "Ch'an survived because it could survive anywhere and

⁴⁴ Berling. 1980. p. 32.

⁴⁵ Fairbank. 1989. p. 90.

⁴⁶ Davis. 1990. "The Maturation of Confucianism" lecture.

⁴⁷ Berling. 1980. p. 33.

⁴⁸ better known in the West in its Japanese form, Zen; see glossary

under most conditions; Ch'an Buddhists needed only a place to sit and a qualified teacher."⁴⁹

With the elevation of the Ch'an school, Buddhism as a whole underwent reexamination. Since the Ch'an school espoused a philosophy that no particular scripture or doctrine held the truth of Buddhism, the discussions of the finer points of variation were no longer relevant. In essence, Buddhism was simplified and the great centers of learning and ritual saw their demise. It has often been viewed that these events were an intellectual streamlining of Buddhism which resulted in its decline; however, this simplification may also have made it more accessible to the lay public by narrowing the intellectual gap between monks of great Buddhist learning and laymen interested in the ideas of Buddhism but who lacked the ability to understand the philosophical technicalities.⁵⁰ The new pragmatism of Buddhism may have lent an opening to syncretic interaction with other teachings. Buddhism, which had never been a rigid way of thinking in China,⁵¹ became increasingly more flexible during the Sung and Ming eras, e.g. uniting opposing sectarian ideas regarding the route to salvation (self power vs. the compassion of the Buddhas and Bodhisattvas). Although unlikely unions of sectarian philosophical differences continued to occur, Buddhism retained its attraction nonetheless through its universality, promising a deserved afterlife regardless of social class. Buddhist universality has also been credited for raising the moral standard of medical teaching as medical thought began to incorporate the teachings of Buddha, involving both compassion and pity and never distinguishing between the lofty and the

⁴⁹ Berling. 1980. p. 33.

⁵⁰ Ibid.

⁵¹ Fairbank. 1989. p. 91.

common.

The Decline of Confucianism and the Rise of Neo-Confucianism

The transformation of Confucianism was a result of events that occurred during the Sung Dynasty. The Confucian scholar-official class continued to view themselves as the maintainers of Chinese cultural legacy and its social moral fiber.⁵² Buddhist officials became part of the imperial court during the later Han Dynasty and came to dominate the court during the T'ang Dynasty, almost ousting the Confucian scholar-official. With the disfavor and diminished power of the Buddhists near the end of the T'ang and the early Sung, Confucianists again regained the ear of the emperor in all matters of state. But this old philosophy, which had started unrivaled and endured a course of competition with other religious forces before finally regaining control, had not made the modifications necessary for a powerful comeback. Conditions had changed so much that when a reform movement led by Wang An-shih (1021-1086), the Chief Councilor to the Sung Emperor Shen Tsung, to right the inequities of Chinese government and return the bureaucratic system to its original days of Confucian glory was launched, Wang and his colleagues met with the unexpected difficulty of dealing with entrenched bureaucratic interests, resulting in ultimate failure.⁵³ The failed reform movement caused many Confucians to blame Wang and his followers for inadequate moral cultivation as opposed to a failure of Confucianism to accommodate adequately to a new society.⁵⁴

Soon after, Jurchen [Mongol] invaders took over northern China,

⁵²Berling. 1980. p. 35.

⁵³Ibid. pp. 35-36.

⁵⁴Ibid. p. 36.

pushing the Chinese empire further to the south. Confucians in southern China viewed this state of affairs as the result of moral inadequacy of the Confucian scholar-official and sought to revitalize the Confucian tradition.⁵⁵ This philosophy which had once been unified by the teachings of Confucius and Mencius, experienced a fragmenting in approach in its attempts to regain moral superiority. Some Confucianists sought solutions by reexamining the lessons of history while others sought to recapture its vitality through effective action. The latter approach developed into a movement which became known as Neo-Confucianism.

Chu Hsi, a noted Sung historian and philosopher of his time (1130-1200), in hopes of finding the key to moral cultivation, started by elevating the Four Books (teachings of Confucius and Mencius) as the capstone for Confucian learning. Where classical Confucians had defined the goal of self-cultivation as becoming a gentleman of refined moral superiority, Sung Neo-Confucians took the goal even further. Rather than just achieving gentlemanhood, man was to transform himself into a sage, "a fully realized human being in a state of unity with heaven, earth, and all things"⁵⁶ who could apply his will, use his innate goodness, and transform his mind to every situation. Attaining sagehood required returning to heavenly endowed moral principles: all things of the world, if acting in accord with the principle of the world, will be perfectly ordered. The human mind was thought to be divided between heavenly and earthly forces, making the struggle to achieve sagehood even more difficult. If man could investigate the moral principles of all things, he would experience the dissolution of the mind of material endowment. The overtones of this new interpretation of Confucianism

⁵⁵ Berling. 1980. p. 36.

⁵⁶ Ibid. p. 37.

showed a remarkable similarity to Buddhist reflections about internal spiritual harmony and Taoist cosmological principles.⁵⁷ The Neo-Confucianists, however, remained staunchly opposed to other forms of religious and philosophical thought.⁵⁸

Taoism

After the Jurchen invasion of the North, the Confucians in the North became cut off from the Confucians in the South (Southern Sung) and did not partake in the development of Neo-Confucianism. Many of the educated Confucian scholar-officials refused to serve a “barbarian” government and instead isolated themselves. Several of these Confucianists, although uncomfortable with the religious trappings of Taoism, began to form a contemplative and meditative school, later known as Inner Alchemy, a new form of Taoism.⁵⁹ The influence of the Confucians and early Inner Alchemist was apparent in the Golden Elixir School, founded by Wang Che (1112-1170), a scion of a wealthy family.⁶⁰ His teachings attempted to return to a simpler style of Taoism, advocating strict ascetic forms of meditation and ways of life in order to achieve the goal of union with the Tao through contemplation. His teachings were perhaps one of the most syncretic of all the movements at the time, drawing on all Three Teachings, Buddhist, Taoist, and Confucianist elements alike.⁶¹ Although Wang's followers saw themselves as part of this modified Inner Alchemy School, they were not as interested in actual experimental alchemy, but used the principle to explain

⁵⁷Berling. 1980. p. 38.

⁵⁸Ibid.

⁵⁹Ibid. p. 39.

⁶⁰Ibid.

⁶¹Ibid.

the fundamental transformation of man. The "alchemical process" provided an explanation of man's relation to the universe, namely that the inner life of man, the world, and the heavens were all part of the cosmic order.

Syncretism

The religious changes which occurred during the Sung showed for the first time that the act of redefining essentially separate teachings had created three pathways to the same goal, mind-cultivation to achieve a loftier aim-enlightenment, sagehood, union with Tao. By the early Ming, the original social and intellectual obstacles toward syncretism had been greatly reduced. Syncretism was to find " a measure of imperial sanction [in the emperor's] pronouncements on the Three Teachings... the unity of the Three Teachings [achieved] a source of official legitimacy."⁶²

⁶² Berling, 1980, p. 46.

Influences which Shaped Medical Thought

Political Influences:

The Ming Dynasty from 1368-1644 was one of the great eras in the history of orderly government and social stability, in which the population reached around 250 million,⁶³ and there were 276 years of comparative peace.⁶⁴ Under such stability, the intellectual and artistic life flourished while government politics were despotic. One factor creating stability was the Chinese view of "change within tradition"; that which occurred in the present must be fitted into the experiences of the past.⁶⁵ The Ming saw its ideal models in the far past and sought inspiration from the great ages of Han (206 B.C.- A.D. 220), T'ang (618-907), and Sung (960-1279) while expressing hostility and resentment toward the Mongols and alien things in general. This was the beginning of a growing introspection within Chinese life mingled with contempt for the outside world.⁶⁶ This growing ethnocentrism was to dominate foreign relations, but interestingly enough, would provide the intellectual turn to and reinterpretation of past theories and ideas.

Inaugural Era of Consolidation

As discussed previously, Emperor Hung-wu, the founder of the Ming Dynasty, secured one of the greatest forms of absolutism ever seen in China. Through the elimination of court offices and manipulation of various political groups, the emperor achieved extraordinary institutional power.

⁶³ Davis. 1990. "Economic and Technological Stagnation" lecture.

⁶⁴ Fairbank. 1989. p. 177.

⁶⁵ Ibid. p. 178.

⁶⁶ Ibid.

Suspicious by nature and from his experience as a self-made conqueror, he institutionalized his personal role, leaving a strong imprint on the dynasty. In 1380, when he abolished the Imperial Secretariat position,⁶⁷ he declared that the emperor's rule was to be personal and direct. Although this change gave the emperor and his successors a more autocratic role, personal administration still involved the use of Grand Secretaries. This group of advisors, although eventually institutionalized as a somewhat legitimate cabinet of advisors, remained as mere aides and were unable to take executive action on their own initiative.⁶⁸ As mentioned before, despotism and arbitrariness marked the rule of the emperor as Hung-wu continued the Mongol precedent of corporal punishment of high officials at court. Executions were often conducted at various times based on mere suspicion of officials' hidden contempt for the imperial court.⁶⁹

Despite this form of absolutism, Hung-wu and his successors continued to maintain the original structure of central government from past eras, namely the three branches of the civil bureaucracy, a centralized military hierarchy, and the Board of Censors to oversee all operations. The territorial civil administration was divided into 15 provinces in which each was again divided into prefectures and subdivided into subprefectures and counties headed by a local administrative hierarchy of magistrates, provincial administrative commissioner, provincial military commander, and judicial commissioner.⁷⁰ This administrative hierarchy was monitored by the censors on tour.

The military system was also overhauled. Hung-wu organized units of

⁶⁷ Fairbank. 1989. p. 182.

⁶⁸ Ibid.

⁶⁹ Ibid. p. 184.

⁷⁰ Ibid. pp. 184-185.

5600 men, each divided into five subunits of men registered as professional soldiers.⁷¹ By 1393, these units were stationed along the Inner Asian frontier, the seacoast, the Grand Canal, and at the capital. The units, or garrisons, were independent of local civil administration and registered soldiers received land for their livelihood.⁷² Even administrative bodies in the provinces and capital who oversaw special functions connected with the police or the salt monopoly became institutionalized. The duties eventually were divided among the provinces, creating an additional administrative level between the provincial and prefectural levels.⁷³

The consolidation of power and the reorganization of government and central administration produced a military system made up of garrison units stationed at strategic areas at all times. This system kept detailed registers of land and its population for taxation purposes, organized labor services from neighborhoods of households, and produced a comprehensive body of administrative and criminal law in 1397. Despite claiming the prerogative of organizing and controlling all aspects of society, the early Ming governments did not, in practice, interfere with Chinese daily life.⁷⁴ The absolutism and cruelty at court were rarely seen at a local level.

Rise of Neo-Confucianism and the Civil Service Examinations

Two aspects of early Ming politics that were to bear some influence on Ming medical thought were the rise of Neo-Confucianism and the "democratization" of the civil service.⁷⁵ The philosophical reexamination

⁷¹Fairbank. 1989. p. 185.

⁷²Ibid.

⁷³Ibid. pp. 185-186.

⁷⁴Ibid. p. 187.

⁷⁵Unschuld. 1985. p. 190.

and change as marked by these two trends would come to bear on medical thought during the Ming.

The Neo-Confucianism of Sung Dynasty's Chu Hsi was revived and strengthened during the Ming Dynasty, particularly by the scholar-official, Wang Yang-ming. Confucianism, which depicted a hierarchy of correct human relations and an ethical basis for government, had been adopted as a state sponsored philosophy during the Warring States Period (475-221 B.C.) and was later enhanced by the writings of Mencius (370-290 B.C.) which aided in establishing Confucianism as the mainstream thinking in China.⁷⁶ Although Confucianism continued to encompass the Chinese mainstream, it experienced a major upheaval during the renaissance of the Sung Dynasty. Sung writers, in reaction to the extinction of Buddhist schools and demise of power at the end of the T'ang Dynasty, returned to the classics of Confucianism in hopes of recapturing the original vision and recreating the ideal Confucian society believed to have existed during ancient times. There emerged several schools of thought, including a new application of Confucian concepts to the natural world. Chu Hsi, mentioned earlier, combined some of the ideas from these different schools to create an organic model of the universe in which each material phenomenon and each ethical category could be explained.⁷⁷ His motto *ko wu chih chih* (格物致知), "investigate all things to understand all things" lent a metaphysical construct (Buddhist influence) to the relationship of human existence with the universe.⁷⁸

After his death, Chu-Hsi's Neo-Confucian synthesis gradually became a

⁷⁶ Fairbank. 1989. p. 52.

⁷⁷ Unschuld. 1985. pp. 165-166.

⁷⁸ Ibid. p. 166.

rigid orthodoxy and was applied so resolutely to the ethics of social and political institutions that by 1313, his commentaries on the classics became the standard answers for the civil service examinations.⁷⁹ During the Ming Dynasty, however, a revival of Neo-Confucianism emerged. The statesman Wang Yang-ming believed that the decline in the Confucian state had led to the country's weakness with particular reference to Mongol rule. As a man of action, Wang advocated a moral cultivation and attempted to redress the imbalance of learning versus action.⁸⁰ By interpreting Chu Hsi's "understanding of things" to mean the innate knowledge (*liang-chih*, 良知) of man, Wang advocated that one must investigate this innate knowledge so that it will lead to morally correct action in the real world.⁸¹

During the Ming, in contrast, the civil service examination system, which had been heavily influenced by Confucianism and Neo-Confucianism, experienced a different sort of upheaval from the one experienced by its philosophical roots. The civil service examination system was first established during the Ch'in (221-206 B.C.) and Han Dynasties as a means to develop an efficient bureaucracy through education and selection of prospective officials based on merit (i.e. examination scores).⁸² The content included the teachings of Confucius and Mencius, and in particular, the government ethical basis established by Confucianism. To pass such an examination required intensive study of the classic works of Confucianism and later several of the commentaries by leading philosophers. During the Ming, however, Emperor Hung-wu made one major revision: he opened the

79 Fairbank. 1989. pp. 150-151.

80 DeBarry. 1970. pp. 10-11.

81 Tang, Chun-l. "The Development of the Concept of moral Mind from Wang Yang-ming to Wang Chi". [cited in Unschuld. 1985. p. 196.]

82 Fairbank. 1989. p. 69.

civil service and allowed the prerequisite Confucian education to be introduced to larger segments of society. To introduce this education to the public, the chief primer of the time was the *San-tzu ching* (三字經) or the "Three-Character Classic", which presented a concise summary of the basic knowledge and doctrine from the Four Books and Chu Hsi's Neo-Confucianism in the form of a jingle with 356 alternately rhyming lines, each consisting of three characters.⁸³ Hence, elementary learning had become a process of philosophical indoctrination.⁸⁴ In addition, the once grueling and philosophically challenging civil service exam became standardized and simplified considerably. An extensive literary education was no longer of great value. Although the basic Neo-Confucian ideology was considered suitable exam material, the examinations "neither required an extensive struggle with its concepts nor an internalization of its ethical precepts, but rather simply mechanical memorization of certain passages and orthodox commentaries which were to be cited on cue."⁸⁵ The preparation and taking of the exam had become a mere formality. For the scholar-gentry class, it was felt that the status distinctions were no longer as clearly defined when a Confucian education became open to all. This newly popularized Confucianism and the introduction of vernacular writings gave birth to numerous publications which presented Neo-Confucian ideas to a new group of readers, previously excluded from the literati. A new rise in the standard of living coupled with increased demand improved the possibilities for individual writers to publish their works; hence, "the views and political objectives of earlier fringe groups found their way to the upper reaches of

⁸³ Fairbank. 1989. p. 190.

⁸⁴ Ibid.

⁸⁵ Unschuld. 1985. pp. 190-191.

society."⁸⁶

Scholarship and the Scholar-Gentry Class

Tradition dictated that the emperor's sponsorship of letters and the arts was an important means of maintaining his position as head of the Confucian state and culture.⁸⁷ This tradition supported the Hanlin Academy, a select body of outstanding scholars, who performed literary tasks for the court. The ethnocentric reaction of early Ming centered around the propagation of some 300 private academies throughout the country based on earlier Sung models for centers of scholarly study and discussion.⁸⁸ Many of these were sponsored by high officials or rich merchants and even received imperial encouragement. Many academies provided free schooling and housing for students and would publish scholarly works engraved on wooden printing blocks.

The term scholar-gentry applied not only to the degree-holders, the successful candidates of the civil service exam, but also to their families. Since this status was extended beyond the successful candidate, families would invest in the education of a promising candidate. Most degree-holders were appointed to official posts in different provinces, while others who achieved their rank through contributions to the imperial treasury would only retain the honor of a degree-holder. By making degrees purchasable, the imperial treasury could continue to receive fresh funds.

This group performed many public functions in local communities, theoretically without official renumeration which was the mark of Confucian

⁸⁶ Unschuld. 1985. pp. 190-191.

⁸⁷ Fairbank. 1989. p. 190.

⁸⁸ Ibid.

government. As men of influence, they assumed responsibilities for the activities of their towns through raising funds and supervising public works. Following Confucian doctrine, they perceived themselves as "gentlemen" who were responsible for public morals and helped to maintain local Confucian temples, school, and academies. They were responsible for the compilation of local histories, sponsorship of orphanages, care for the elderly, and provision of disaster relief. Although only receiving imperial approval and no monetary compensation, this system provided the government with the maintenance of morale and a type of public spirit. In actuality, bribery and corruption were not uncommon as means of earning an extra income for these "men of influence". This elite class, although not aristocratic in the hereditary sense, made up less than 2 percent of the population.⁸⁹

Political Impact on Medical Thought

Over the course of the Ming Dynasty, the scholar-gentry continued to be encouraged by the imperial government, perhaps because of the funds they contributed to the treasury or the distance from the capital where they pursued their activities. In any event, scholarly thought was not as welcome at the imperial court itself as Emperor Hung-wu preferred to keep them at a distance while later rulers allowed eunuchs to gain access to government positions. Scholarly activities, however, flourished more as the distance from the capital increased. The academies throughout the country and the prosperous South were all arenas for scholarly pursuits.

With the official sanctioning of Neo-Confucianism by its use in the civil service exam and in popular literature, several Neo-Confucian thinkers

⁸⁹ Fairbank. 1989. p. 195.

began to pursue individual theories of political practice and solutions within the confines of a redefined Confucianism. While some continued to look to the orthodox past or promote the Chu Hsi school of thought, others either reshaped these ideas or advocated heretical doctrines. The differing reinterpretations and theories would occasionally produce great conflicts among orthodox forces, but perhaps because of these clashes, a vigorous intellectual life continued to develop, presenting a growing contrast to state-sponsored Neo-Confucianism. Ironically, although Confucianism had displaced Buddhism and Taoism from court-sponsored philosophy and practice, Taoist and Buddhist concepts, under the guise of Neo-Confucianism, influenced Chinese thought to a greater degree than ever before.⁹⁰

During the Sung, Chu Hsi's philosophy to "investigate things and affairs and extend knowledge to the utmost" provided a legitimate opportunity for individuals to establish their own views under the pretext of interpreting the classics and criticizing past views. During the Ming period, as more and more individual Confucian scholars were seeking individual solutions to the problems of society, this earlier Sung notion found increasing strength. Wang Yang-ming, as discussed previously, brought this notion a little further. Self-cultivation was the application of the extension of intuitive knowledge. Investigation started with one's own inner mind, while knowledge and conduct were considered inseparable ends of the same cycle. This corollary of Chu Hsi's original movement won great approval but showed unmistakable Buddhist influence. The investigation of one's own inner mind was almost equivalent to Buddhist meditation.

As individual investigators continued to espouse and follow this

⁹⁰ Fairbank. 1989. p. 191.

philosophy, there emerged an extremely fruitful period of medical thought. This fruitfulness led to greater and greater divergence of theories just as Neo-Confucianism was seeing a greater number of theories and individual solutions. While each decade brought new ideas to the frontline and saw older ones criticized, no one idea ever gained enough of an audience to achieve even a temporary position of a generally recognized doctrine.⁹¹

Religious Influences:

Medical thought during the Ming Dynasty was in adherence with the general intellectual tendencies of the time and as such, the conceptual approaches from different periods in Chinese history were brought together from the various influences which formed Chinese philosophical thought and reexamined. The influences of Buddhism, Taoism, and Neo-Confucianism were reflected as well as affected by the literature, arts, and politics of the period. Of equal importance was the influence conferred on medical thought by these viewpoints which were in both political conflict and philosophical coexistence.

Neo-Confucianism

Neo-Confucianism, as discussed earlier, experienced a resurgence during the Ming Dynasty. Wang Yang-ming's concept of knowledge and action being inseparable extended to the moral basis for action. An extension of this principle included the idea that a person's innate knowledge will spawn morally faultless conduct and in turn will produce complete physical

⁹¹Unschuld. 1985. p. 197.

and mental well-being. DeBary writes that "Personal health and the harmony of environment are thus partly dependent upon virtuous conduct, which is dictated by the truth of innate wisdom that must be uncovered from beneath many layers of ignorance."⁹²

As far as the religious forces during this time, Buddhism and Taoism on an intellectual level were in a state of decline and institutionally in a weakened condition. For the Confucian scholar, these forces "could not have compelled his attention except that, in wrestling with his own Confucian conscience, he could not ignore what they had to say to his inner self."⁹³ Despite these struggles, the large influence these opposing religious forces had on the general population was a phenomenon of the syncretic nature of the Chinese mindset. The focus was one of pragmatism and not of theological superiority.⁹⁴

Buddhism

Buddhism has been cited to incorporate the teaching of medicine. Chu Hui-ming (朱惠明, ca 1590), a descendant of Chu Hsi, wrote that the teaching of medicine is the teaching of Buddha because it involves compassion and pity.⁹⁵ The teaching of medicine is to be regarded as exceedingly noble and the principles of medicine are difficult and subtle, but in no way are there different kinds of drugs for the lofty and the common.⁹⁶ This principle could in essence be in conjunction with the Confucian

⁹² DeBary, 1970. p.20.

⁹³ Ibid. p. 5.

⁹⁴ Ibid. p. 645.

⁹⁵ Unschuld, Paul U. Medical Ethics in Imperial China, A Study in Historical Anthropology. University of California Press. Berkeley and Los Angeles, CA. 1979. pp. 62-64.

⁹⁶ Ibid.

philosophy of virtuous conduct. Virtuous conduct does not distinguish between the lofty and the common, and as such good health will also not make the distinction. Administering drugs to alleviate or cure a disease must also fall along the same lines of nondiscrimination.

Buddhism had experienced great changes during the Sung Dynasty after its decline during the T'ang period. During the Ming, Buddhism regained a part of its original influential position through the syncretic nature of philosophical ideas. Although quietism, introspection, and withdrawal into oneself were in opposition to true Confucian tradition, the current of Neo-Confucian introspection was in actuality a borrowing from Buddhism.⁹⁷ Buddhism which offered redemption through the religious concepts of reincarnation and afterlife garnered some advocacy from writers during the Ming.⁹⁸

Taoism

According to DeBary, although no outstanding Taoist philosopher emerged during the Ming Dynasty, Taoism was never more pervasive among all social strata than during this time.⁹⁹ Apparently, Emperors Hsien-tsung (1465-1487) and Shih-tsung (1522-1566) were very interested in Taoist superstition and thus greatly influenced their ministers and subjects. Taoist superstition was very appealing to many people, including emperors, simply because it promised longevity and advocated cultivation of "ch'i" ("vital energy") through various sexual techniques.¹⁰⁰ Taoist priests who gained favor with the imperial government would cultivate friendships with

⁹⁷ Gernet. 1982. p. 440.

⁹⁸ DeBary. 1970. p. 312.

⁹⁹ Ibid. p. 291.

¹⁰⁰ Ibid. pp. 293, 310. see glossary for definition of ch'i

powerful politicians and often engaged with eunuchs in official corruption. They built grandiose Taoist monasteries through expensive Taoist services and sacrifices on the behalf of wandering souls.¹⁰¹ Aside from the influence Taoism bore on Ming politics, the syncretic nature of Ming Neo-Confucianism contained Taoist elements while at the lower strata of society, Taoist ideas were spread through exhortative pamphlets and popular fiction.¹⁰²

Although several writers, including Wang Yang-ming, dabbled in the Taoist practices of mental cultivation, seeking the true meaning of the "Way", it was usually an attempt to achieve longevity.¹⁰³ As for medical thought, Taoism included a great deal of demonology. Demons were regarded both as creations of the human mind and as entities from an outside source. The basic premise was that emotional states, excessive attraction or aversion, would lead to imbalances of certain influences in the body. These emotions would stimulate an increased production in certain body depots and the disorientation would enable a foreign "evil" to establish itself in one's body. One example cited by Unschuld is a line from a Taoist text, *Kuan yin tzu*, which states that the heart when controlled by various emotions can be seized by specific demons.¹⁰⁴ The recommended approach was to analyze the inclinations or aversions, and then bring about therapy.¹⁰⁵ Demons were expelled by noise making, burning, and fumigation of peach branches and peach leaves (symbolizing archery weapons of the past which penetrated the

¹⁰¹ DeBary. 1970. pp. 293, 310.

¹⁰² Ibid. p. 292.

¹⁰³ Ibid. p. 318.

¹⁰⁴ Unschuld. 1985. p. 221.

¹⁰⁵ Ibid. pp. 220-221.

body).¹⁰⁶ Demonic invasions generally were made possible by an already preexisting imbalance of certain influences in the body, according to Kung T'ing hsien (龔廷賢), fl. 1615.¹⁰⁷ His statement was only a part of the greater idea that misfortune cannot overcome that which is correct, a reflection of the Confucian feeling that if a man conducts a virtuous and correct life, he will not provide a target for any kind of "evil."¹⁰⁸

Economic and Foreign Influences:

The Tribute System

When Emperor Hung-wu took power, he immediately tried to reestablish foreign relations with Korea, Japan, Annam (Vietnam), Champa, Tibet, and others in order to announce his ascent to the throne. The feudal overlord-vassal relationship between the ruler of China and the ruler of other countries expressed the traditional Chinese belief that China was in a sense the parent and source of other states' civilization. Tribute relations were more than performances of obeisance, they also allowed the exchange of envoys and regulation of foreign trade. By giving each "vassal" king an official patent of appointment, stamped by the Chinese ruler, the Chinese government could not only extend the "Confucian" social order beyond the boundaries of state, but also confirm the succession of new rulers and occasionally offer military protection.¹⁰⁹ The result was a favorable trade situation for China. For the tributary states, the benefits of trade were purchased by acknowledging the universal supremacy of the Chinese ruler

¹⁰⁶ Unschuld. 1985. p. 217.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid. p.218.

¹⁰⁹ Fairbank. 1989. p. 195.

(the Son of Heaven) and bringing goods to the imperial court.¹¹⁰ The Chinese ruler also gave gifts in return. However, with the intent to be respected and save face, this translated into bestowing gifts worth more than what he had received.¹¹¹ The expense of lavishing gifts upon the many functionaries and merchants who came to the capital was often not compensated by the trade they conducted. Yet for Emperor Hung-wu, obsessed with control, it seemed quite appropriate to re-sanction the tribute system, despite the questionable cost-benefit ratio.

Maritime Explorations

Hung-wu's successor, Emperor Yung-lo, ruled from 1403-1424 after a 32-year reign in which Hung-wu never abandoned his extreme suspicion of all court officials and envoys. Yung-lo's reign was characterized by major building and expansion. Several scholarly works were to appear during this time as did the increase in maritime expeditions.¹¹² One of his undertakings was the sponsorship of seven great maritime expeditions begun in 1405, ending in 1433, and led by a Muslim court eunuch, Cheng Ho. In order to incorporate the states of South and Southeast Asia into the tribute system, Cheng Ho's fleets traveled to India, the Persian Gulf, Sri Lanka, and even as far as the east coast of Africa, reaching Somalia and Mecca.¹¹³ The advanced state of shipbuilding and techniques of navigation allowed such remarkable expeditions, bringing trade to previously unknown distances and goods in large volume. Although commercial interests may have sustained these expeditions as well as the political idea of continuing to bring the known

¹¹⁰ Fairbank. 1989. p. 195.

¹¹¹ Davis. 1990. "Economic and Technological Stagnation" lecture.

¹¹² Fairbank. 1989. p. 197.

¹¹³ Gernet. 1982. pp. 401-402.

world into the sphere of the Chinese tributary system,¹¹⁴ the Ming expeditions came to a halt in 1433. The reasons for this abrupt end of the great sea voyages have often been a source of speculation. Great costs may have been the reason for its demise at a time when the building of Beijing as the new capital and continued campaigns against the Mongols were taking their toll on the imperial treasury.¹¹⁵ Another theory, however, is that since the expeditions were promoted particularly by court eunuchs, the scholar-official class became the expeditions' chief political opponent.¹¹⁶ Whatever the theory, what had started as the possible beginning of China's role as a major naval power, had ended quite abruptly.

Trade and Piracy

Similar to the tribute system and maritime expeditions, trade was under the control of the imperial government. Although private international trade was discouraged and even banned at times, Chinese merchants continued to go abroad with their products.¹¹⁷ Trade steadily increased, but it may have been potentially less than with imperial sanction. For instance, no companies or trading posts had been set up during the great expeditions of Cheng Ho, leaving Chinese merchants without the infrastructure or support of the government to set up large enterprises.¹¹⁸ Hence, trading was generally confined to individual merchants and their wares. The imperial government remained uninterested in commercial or colonial possibilities overseas after Yung-lo's reign, except for the tributary

¹¹⁴ Fairbank. 1989. p. 198.

¹¹⁵ Ibid.

¹¹⁶ Ibid.

¹¹⁷ Ibid. p. 206.

¹¹⁸ Ibid.

system which appeased the Chinese emperor's need to acknowledge his great sphere of influence.

Aside from the great costs of overseas expeditions, the late Ming in the sixteenth and seventeenth centuries faced the growing threat of Japanese pirates.¹¹⁹ Japanese pirates had been a problem from the beginning of the Ming, when Emperor Hung-wu deployed three missions to Japan in 1369-1372 under the auspices of the tribute system to induce the ruler of Japan to curb Japanese pirates who were raiding Chinese ports. The consistent non-submissive attitude of the Japanese caused these missions to fail. During Yung-lo's reign, there was a brief period of professed Japanese fealty where the minor inconvenience of paying tribute to the Chinese state allowed Japanese rulers to monopolize the lucrative Chinese trade route.¹²⁰ The tribute system, however, was wreaking its own havoc as it continued to empty the imperial treasury in order to bestow gifts on the "vassal" states which paid this spurious respect to the Chinese state. A passport tally system was then set up to identify and deter pirates, but this system and the professed loyalty were short-lived.¹²¹ Japanese pirates continued to raid ports and ships, but in the latter decades of Ming rule, disloyal Chinese actually formed the majority of these "Japanese pirates".¹²² The response to this growing disorder, coupled with prohibition of maritime trade, in effect, forced many crews to smuggle for their livelihoods. After 1550, pirate raids became actual invasions, while the Japanese harassment continued to escalate. Treasury funds were directed toward repelling these "invasions" and the Japanese threat waned until the

¹¹⁹Fairbank. 1989. p. 203.

¹²⁰Ibid. p. 197.

¹²¹Ibid.

¹²²Gernet. 1982. p. 418.

political reunification of Japan in the late sixteenth century.¹²³ In 1592, the Japanese attacked Korea with the intent to invade China. After bitter fighting, negotiations, and two invasions, the Japanese finally withdrew in 1598, bringing devastating costs to the imperial treasury which was already facing bankruptcy.

Despite the court's restrictions regarding overseas trade and the path to final bankruptcy, the domestic economy fared much better. During the time of the great maritime expedition, Emperor Yung-lo had also turned to the domestic trade situation and planned to have the unused "Connecting Canal" in western Shantung from Kublai Khan's time retrenched, allowing trade to flourish between North and South China.¹²⁴ Teas, silks, salt, timber, and comestibles were traded widely and as this market continued to expand, increasing specialized handicraft and textile operations produced large quantities of porcelain and dyed silk for the court, the upper-class, and even for export. The domestic commercial growth led to the establishment of many regional guilds created by officials and merchants from common regions.¹²⁵

With increased trade and production, the Chinese people enjoyed a prosperity and economic stability that resulted in an enormous population growth. The population grew to 250 million under Ming rule and to 400 million by the end of the Ch'ing (1644-1911). Toward the end of the fourteenth century, China faced overcrowding and was forced to devote more agriculture to foodstuffs instead of cash crops such as cotton.

¹²³ Fairbank. 1989. p. 204.

¹²⁴ Ibid.

¹²⁵ Ibid. p. 205.

Taxation

In response to the population increase, the turn to agriculture yielded far less than what commerce might have achieved.¹²⁶ Emperor Yung-lo had invested large funds into the rebuilding of China's infrastructure with the "Connecting Canal", the improvements on the Grand Canal, and maritime expeditions. But because of the enormous costs, the imperial treasury was never to recoup its losses in spite of the economic prosperity it engendered. Increases of agricultural productivity in response to population growth, coupled with dwindling treasury funds, led to dramatic increases in the traditional taxes on land and labor. Although the Ming Dynasty had been founded by a peasant whose sympathy remained with the peasantry, costs incurred by later rulers forced a heavy taxation burden on this particular class. Landholding forms were complex, labor service charges even more complex as reclassifications of household worth did not occur as expected.¹²⁷ Falsifying records, bribery, transference of deeds prevented the government from taxing fairly and the peasantry experienced the brunt of this taxation. Fairbank writes that the result was "a limitless web of money taxes entangling the peasantry, levied in all seasons of the year for myriad, nominal, or alleged purposes, inequitably assessed and imperfectly recorded, according to no general scheme and under no superior control or direction."¹²⁸ Corruption became fairly widespread by the end of the sixteenth century despite an attempted reform to consolidate taxes and eradicate the loopholes created by having multiple categories and multiple different taxes. Despite the tax increases, the revenue generated could not support the current

¹²⁶ Davis. 1990. "Economic and Technological Stagnation" lecture.

¹²⁷ Fairbank. 1989. p. 207.

¹²⁸ Ibid.

infrastructure.¹²⁹ The Grand Canal would later become neglected and left to local governments to dred it regularly. The deterioration of the Canal would impede trade in general.

Exchange of Medical Ideas and Preparations

Cheng Ho's seven expeditions achieved remarkable feats of seamanship and reached some 30 or more countries at a time close to half a century before the Portuguese and Spaniards set sail.¹³⁰ His expeditions were noted not only for fantastic tales of adventure on the high seas, but for fleets which carried crews of nearly 30,000 people. Each of these crews were staffed with physicians who would serve not only the crew, but also the various "vassal" states' courts whenever they arrived at a new place.¹³¹

Two of the most famous were, Ch'en I-ch'en (陳以誠), a vice chair of the Imperial Health Organization and Ch'en Chang (陳掌), a Shanghai physician.¹³² Although neither's notes remain extant, many biographers have written about the voyages of these two physicians and their medical experiences abroad, particularly more about Ch'en I-ch'en.¹³³ Despite the sketchy details, it is noted that trade in these areas allowed exchange of healing herbs and concoctions between China and Europe. The beginning of information about Chinese pharmacotherapy may have already reached Europe during the Yuan Dynasty as a result of travelers such as Marco Polo. Many Jesuit missionaries were entering China by the sixteenth century, the

¹²⁹ Davis. 1990. "Economic and Technological Stagnation" lecture.

¹³⁰ Fairbank. 1989. p. 198.

¹³¹ Li, Jingwei. Chung Kuo Ku Tai I Hsueh Shih Lueh (中國古代醫學史略). Hebei Science and Technology Publishing Co. (河北科學技術出版社). Beijing, China. 1990. p. 290.

¹³² Ibid. pp. 290-291.

¹³³ Ibid.

most famous, an Italian named Matteo Ricci (1552-1610). Ricci who took great interest in the herbal preparations during his stay in China, came to be well-regarded by the Chinese, resulting in many exchanges of thought. Another Polish missionary whom the Chinese called *P'u Ērh-ko* (卜彌格), 1612-1659, arrived in China at the end of the Ming in 1643 and translated a text of Chinese botanical herbs and its preparations into Latin. In 1656, during the early part of the Ch'ing Dynasty, this text was published in Vienna. It would become the oldest translation in Europe of a Chinese pharmacopoeia which included the techniques of pulse and tongue readings as well as acupuncture.¹³⁴

The influence on Chinese medical thought from these overseas voyages is debatable and largely unresearched. It is apparent that there was Western interest in Chinese medical techniques as evidenced by the translations supplied by missionaries who visited China. Yet, could the dearth of Western medical influence on Chinese thought reflect the status of medicine at that time in the West? Interestingly enough, there was more evidence regarding the exchange of ideas with other states in the East, namely Korea, Japan, and Vietnam.

¹³⁴ Li. 1990. p. 291.

Medical Thought During the Ming Dynasty

Overview, Medical Thought

It is interesting to note that during the greater part of the twentieth century, the Ming Dynasty (1368-1644) has been characterized as a period of sterility¹³⁵ and even general decline,¹³⁶ but recently historians have instead viewed the Ming as a period of intellectual revival, creativity,¹³⁷ and philosophical upheaval.¹³⁸ Research into medical thought from the period is only one area which has supported this new outlook. From the very start of the Ming era, there were already changes in medical thought with individual scholars and physicians aligning themselves along different approaches to medicine, both old and new. By the time of the sixteenth century, scores of publications¹³⁹ and a reawakening of philosophical thinking¹⁴⁰ were to be seen at all levels of society.

Medical thought, much like philosophical and religious thought, experienced a renewed interest resulting in multiple efforts to put forth an acceptable explanation or theory of the qualities of disease and therapy. Individual scholars and physicians interpreted, criticized, and added to the classics of orthodox medicine, and pursued also original directions of thought. This activity was to follow directly upon the heels of the rediscovery and redefinition of political, social, religious, and philosophical concepts which had been neglected in the past.¹⁴¹

135 Gernet. 1982. p. 437.

136 DeBary. 1970. p. 1.

137 Ibid. p. 3

138 Gernet. 1982. p. 438.

139 Li. 1990. pp. 232-3.

140 Gernet. 1982. p. 438.

141 Ibid.

Unschuld writes that medical thought during the Ming era experienced the “blossoming for the first time in a multiplicity of individual approaches and new interpretations of the ancient classics that far surpassed those of previous centuries”.¹⁴² But this “multiplicity”, he asserts, is actually a continuation of intellectual tendencies to adhere closely to ideas of etiological reductionism¹⁴³ as seen during the Sung (960-1279) and Yuan (1279-1368) Dynasties. Yet unlike the orthodox medicine of these past dynasties, the Ming Dynasty was to witness a shift from incorporating pharmacology to incorporating demonology into the framework of systematic correspondence.¹⁴⁴ Unschuld also notes that medical thought was concomitantly influenced to a large degree by the philosophy of Wang Yang-ming and the various meditation techniques of Ch'an Buddhism.¹⁴⁵ The climate fostered by such concepts, Unschuld asserts, brought forth a fruitful period in medical thought that led to large divergences of opinion, with no single approach gaining enough credibility to become the generally recognized doctrine.¹⁴⁶ It is this very state of affairs which gives the impression that unlike previous applications of the medicine of systematic correspondence, Ming thinkers were in “a complex labyrinth... seeking solutions to medical questions [and wandering] aimlessly in all directions, lacking any orientation, and unable to find a feasible way out.”¹⁴⁷

While Unschuld is able to draw on several examples to illustrate the diversity of medical thought, one might gain the impression that, while

¹⁴² Unschuld.1985. p. 195.

¹⁴³ see glossary for etiological reductionism

¹⁴⁴ Unschuld. 1985. pp. 194-195.

¹⁴⁵ Ibid. p. 196.

¹⁴⁶ Ibid. p. 197.

¹⁴⁷ Ibid.

changing and challenging orthodox ideas, medical thought did not as a whole achieve substantial progress, due to the overwhelming number of conflicting new ideas. DeBary is more positive about the diversity of Ming thought, regarding it as a picture of lively controversy and intellectual diversity, “anything but a dull conformity of thought to established patterns and institutions.”¹⁴⁸ Although DeBary’s aim was to illustrate that the Ming was a time of creative stimulation rather than of aimless drifting, he also asserts that the philosophical questions from this period in fact served as the basis of China’s intellectual development in modern times.¹⁴⁹

While one might view Unschuld to be demonstrating the richness of medical interpretations yet concluding that the diversity as a whole remained discursive, another historian, Li Jingwei, portrays Ming medical thought as quite progressive in terms of its achievements.¹⁵⁰ Both Unschuld and Li do succeed in showing not only the diversity, but also the impact of religious and political influences on medical thought. In addition, Berling asserts that this climate was created from the phenomenon of religious and philosophical syncretism of Confucianism, Buddhism, and Taoism alike, with all three ideologies having varying degrees of influence on medical thought, as evidenced by the writings from that period.¹⁵¹ Politically, the institution of medicine remained part of the imperial bureaucracy with an infrastructure similar to the civil service corps.

Infrastructure

According to Unschuld, early publications categorized several classes of

¹⁴⁸ DeBary. 1970. p. 3.

¹⁴⁹ Ibid. p. 3.

¹⁵⁰ Li. 1990. chapter 9.

¹⁵¹ Berling. 1980. pp. 32-61.

physicians, ranging from the *ju-i* (儒醫), “Confucian medical scholar” to the *ling-i* (鈴醫), “itinerant doctors announcing their services publicly with a bell”.¹⁵² With the acceptance of Confucianism as the ideology of the state in the last two centuries B.C., medicine in pre-modern China during dominance by a Confucian state created a political problem over the distribution of resources.¹⁵³ Medical knowledge was always considered to be a necessary part of Confucian education, one outcome of the effort to equally distribute resources.¹⁵⁴ The Confucian intent was to prevent the formation of groups or any permanent specialization, an aim spurned on by the view that Taoists in the past had been successful with medical resources which were unorthodox to the Confucianists and then treated the population in return for material gain.¹⁵⁵ The historical events were in actuality “a justification of a policy against medical expertise adopted by the orthodox Confucians, particularly when that expertise was paraded as a profession in order to gain access to material secondary resources.”¹⁵⁶

The medicine of the Confucians could not suffice to satisfy all of the population’s needs and this, Unschuld asserts, is what allowed therapists such as magicians, shamans, priests, and others to continue their practice of older forms of medicine.¹⁵⁷ During the seventh century, institutions for training physicians at the imperial court were already in existence; as for permanent hospitals, the first description dates back to the fifth century, when a Buddhist prince established this predecessor of a public institution in the state of the

¹⁵² Unschuld 1979, p. 15.

¹⁵³ Ibid. p. 16.

¹⁵⁴ Ibid. pp. 17-18.

¹⁵⁵ Ibid. p. 18.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid. p. 19.

Southern Ch'i (479-502).¹⁵⁸ This introduction of permanent hospitals as a primary medical resource, alarmed Confucians, who believed that control over this resource put an undesirable amount of social influence into the hands of the Buddhists.¹⁵⁹ By the middle of the seventh century, Buddhist and Taoist monks and nuns were excluded from medical activities by Confucian interest groups, and toward the middle of the ninth century, the Buddhist hospitals were given over to the control of laymen.¹⁶⁰

As the Confucians consolidated power over medical resources, there developed a legislation for social services which would be staffed by officials who had undergone medical training and thereafter taken pertinent examinations.¹⁶¹ An imperial school of medicine was founded in the capital by the first half of the seventh century and several other medical institutions were also to develop in the important cities of each province.¹⁶² There is debate as to the aim of the general policy created by this Confucian administration. On the one hand, it could be postulated that incorporating medical training as a supplement to Confucian education would "raise the intellectual level of the physicians",¹⁶³ but Unschuld concludes that it was the Confucian officials as a group who wished to secure control over medical resources.¹⁶⁴ He writes that this is evidenced by the many "physicians who worked at every level of society, up to the imperial court, without having emerged from an administrative career."¹⁶⁵

158 Unschuld. 1979. p. 18.

159 Ibid.

160 Ibid. p. 20.

161 Ibid.

162 Ibid.

163 Needham, Joseph R. Clerks and Craftsmen in China and the West. Cambridge University Press. Cambridge, England. 1970 p. 265. [cited by Unschuld. 1979. p. 21.]

164 Unschuld. 1979. p. 21.

165 Ibid.

In addition to the political struggles among Confucians, Buddhists, and Taoists, there also emerged the “independently practicing” physician [*yung-i*, (庸醫), “common physicians”], a group regarded with suspicion and contempt by both the public and by the Confucians who, starting from the seventh century, were receiving a formal education in addition to their classical studies.¹⁶⁶ Yet, documents from the T'ang (618-906) show that practitioners continued to be rated more on their success rate than their training.¹⁶⁷ During the twelfth century, a new development appeared in which candidates for the career of medical officer were required to undergo comprehensive examinations in both classical non-medical literature and philosophy as well as medicine.¹⁶⁸ As Confucianism became reinforced by Neo-Confucianism in the twelfth century, there is an increased emphasis on the *ju-i* or “Confucian medical scholars” as distinct from the *yung-i* or “common physicians” as Confucians continued to establish their control over medical resources.¹⁶⁹ In theory “their knowledge was, first of all, destined for the private needs of the family, and only then for a certain number of clients”, writes Unschuld.¹⁷⁰ It is easy to see that the needs of the population could not be completely served by such an infrastructure, allowing “common physicians” to continue to develop theories and practices unorthodox to Confucian medicine.

During the Ming Dynasty, the infrastructure for the practice and accreditation of Confucian physicians for both the imperial court and the

¹⁶⁶ Unschuld. 1979.. pp. 21-22

¹⁶⁷ Bridgman, R.G. “La medecine dans la Chine antique.” *Melanges chinois et bouddhiques*. 10 (1955). pp. 192, 196. [cited in Unschuld. 1979. p. 22.].

¹⁶⁸ Needham. 1970. p. 391. [cited in Unschuld. 1979. p. 22.].

¹⁶⁹ Unschuld. 1979. p. 23.

¹⁷⁰ Ibid.

provinces was essentially a continuation of the system established during the Yuan Dynasty.¹⁷¹ Li Jingwei writes that at the top of the hierarchy was the *T'ai I Yuan* (太醫院), "Imperial Health Organization", the main body of administration for the *Wei shen pu* (衛生部), "Health and Hygiene Department", and was divided into two branches, one in Nanjing and one in Beijing. The branch at Beijing was headed by one minister, two vice-ministers, 10 secretarial staff, 10 physicians for the royal family, and 70 medical positions filled by other medical practitioners.¹⁷² The duties of the Imperial Health Organization's staff were, first and foremost, to treat the imperial family, but other tasks included recommending physicians to this body, administering qualifying examinations at both the provincial and prefectural level, educating, and overseeing the collection and distribution of herbs and other pharmaceutical preparations.¹⁷³

Interestingly enough, an independent section of the Imperial Health Organization, called the *Huei ming chü* (惠民局), was designed to serve the populace. Similar to the current day Red Cross, it was headed by a minister, a vice-minister, and one pharmacist and was first established during the Sung Dynasty. Unfortunately, due to much corruption, the organization was disbanded and only reinstated during the Ming Dynasty as part of the Imperial Health Organization. During the Ming, it would suffer the same fate and prove little benefit for the masses.¹⁷⁴

As to the structure of medical education, the first qualification was hereditary descent from a physician's family.¹⁷⁵ In fact, if one was the

¹⁷¹ Li. 1990. p. 292.

¹⁷² Ibid.

¹⁷³ Ibid.

¹⁷⁴ Ibid. pp. 292-293.

¹⁷⁵ Ibid. p. 294.

descendant of a physician, one was compelled to carry on the tradition.¹⁷⁶ Required knowledge included the portions of the *Huang-ti nei-ching* (黃帝內經) *Su Wen* (素問) or “Emperor’s Handbook of Internal Medicine” (second century B.C.- seventh century A.D.), the *Nan ching* (難經) or “Scripture of Difficult Issues”, pulsation rules and theory, and pharmaceutical dosages and prescriptions. This knowledge formed the core of medical thought; at the local level, each physician had to sit for a qualifying exam which was given only four times a year.¹⁷⁷ Although passing such an exam allowed one the title of physician, *i-sheng* (醫生) at a town level, to qualify for the ranks of the Imperial Health Organization required even further testing. Medical practitioners were organized into three categories, the highest, *i-kuan* (醫官) who were considered officials of the state while the middle, *i-shih* (醫士) and lowest, *i-sheng* categories would make up the medical practitioner staff of the Imperial Health Organization.¹⁷⁸ To achieve any of these three ranks required yet another examination process which was administered every three to five years and each candidate was allowed only three attempts to pass.¹⁷⁹ Ranks were meted out later by score. The content of medical education consisted of thirteen areas of study including internal medicine, surgery, pediatrics, obstetrics, otolaryngology, acupuncture, infectious disease, preventative medicine, and pharmacology.¹⁸⁰

If selected to be an physician for the Imperial Health Organization, in line with Confucian medicine, one was still required to seek imperial

176 Li. 1990. p. 294.

177 Ibid.

178 Ibid.

179 Ibid.

180 Ibid. p. 293.

permission to treat other patients.¹⁸¹ The health care benefits of the such a system continued to be limited for the common masses. Despite the rigorous examination system and the pathways for advancement, physicians were still considered to be on the lowest tier of government officials and received the lowest commission.¹⁸² In addition, the edict that all descendants of physicians must become physicians commonly led to desertion.¹⁸³

Publications

The following is a list of several important works published during the Ming Dynasty:

1. *Pen Ts'ao Kan Mu* (本草綱目), "Materia Medica," by Li Shih-chen (李時珍), 1518-1593
2. *Chiu Huang Pen Ts'ao* (救荒本草), "Edible Plants for Famine Conditions," by Prince Chu Su (朱木喬), 1361-1425
3. *Ming I Lei An* (名醫類案) "Famous Medical Cases," by Chiang Kuan (江玉權), 1503-1565
4. *Tian Nan Pen Ts'ao* (滇南本草), "Southern Yunnan Pharmacopoeia," by Lan Mao (蘭茂), 1397-1496
5. *P'u Chi Fang* (普濟方), "General Prescriptions," by Prince Chu Su (朱木喬)
6. *Wen-i-lun* (溫疫論), "On Warmth Epidemics," by Wu Yu-k'o, *ming Yu-hsing* (吳又可,名:有性), fl. 1644
7. *Pai Ping Kou Hsuan* (百病綱玄), "Etiological search for a hundred illnesses," by Wang Lu (王履), 1332-?
8. *Wai K'o Chun Shen* (外科準繩), "Surgical Standards," by Wang K'en-t'ang, *tzu Yü-t'ai* (王肯堂,字宇泰), 1549-1613
9. *Wai K'o Cheng chung* (外科正宗), "Basic Surgical Principles," by Ch'en Shih-kung, *tzu Yü-jen* (陳襄功,字毓仁), 1555-1636
10. *Chen Chiu Ta Ch'eng* (針灸大成), "Great Accomplishments in Acupuncture," by Yang Chi Chou (楊繼洲), 1522-1620

¹⁸¹ Li. 1990. p. 294.

¹⁸² Ibid.

¹⁸³ Ibid.

Citing these publications which marked the Ming Dynasty, Li Jingwei singles out the advances in medical science which were achieved during this time. As discussed earlier, the economic prosperity of this era brought forth an urban middle-class eager for reading material¹⁸⁴ while prose writing was for the first time introduced to Chinese writings. The increase in medical publications produced several works which historians agree were of great importance to medical science and history.

The most significant publication from the Ming Dynasty was Li Shih-ch'en's (李時珍) *Materia Medica*, *Pen Ts'ao Kan Mu* (本草綱目). Li, (1518-1593), was the son of a well-respected physician in Hubei province. Fascinated with philosophy, history, and especially herbal preparations, Li devoted his life to collecting information about the properties, effects, and sources of pharmacological agents in various parts of China, covering the provinces of Hubei, Henan, Guangdong, Hebei, Jiangsu, and Anhui. He sought information regarding local medical products and local uses including plant extracts, animal extracts, and minerals. Using the ancient texts to guide him, he classified his findings by species and conducted several experiments with animal and human subjects to determine the efficacy of these cures.¹⁸⁵

Although many of the plant extracts were already cited in medical literature and lauded for their curative properties, Li would judge the validity of each claim against his own experiments and personal experience.¹⁸⁶ One example is the dismissal of the long held belief in the existence for an elixir of youth, another was determining the harmful effects of mercury use.¹⁸⁷ The *Pen Ts'ao Kan Mu* lists 1892 different plant extractions and 444 animal

¹⁸⁴ Gernet. 1982. p. 438.

¹⁸⁵ Li. 1990. p. 240.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

extracts in very detailed text with accompanied illustrations.¹⁸⁸ Containing 11,096 different prescriptions, it was published in 1578 and spanned 52 volumes.¹⁸⁹ When presented to the imperial ruler, his work was given scant attention, but its reputation among the medical community grew so that from 1590 on, this work has been republished on a regular basis. According to Li, this text has been republished every six years up through the present time.¹⁹⁰

Extraordinarily thorough, this tome included minority medicine in China and even described plants brought in from Africa as well as parts of Europe.¹⁹¹ This pharmacopoeia was to reach Japan eleven years later and to arrive in Europe in the early eighteenth century¹⁹². By the end of the eighteenth century, several condensed versions were translated into the various European languages. Historian Li Jingwei asserts that Li Shih-chen's pharmacopoeia and its many illustrations may have aided Darwin in his theory on the origin of species.¹⁹³ It is proposed that Darwin was familiar with this text and compared several of his observations with the seven different chicken species and the fish fossils depicted in Li's pharmacopoeia.¹⁹⁴ Li Shih-chen's *Pen Ts'ao Kan Mu* has continued to gain respect as one of the classic reference works of Chinese medical pharmacology, both for its thoroughness and for its experimental methods.

One reference work which Li Shih-chen drew upon was a book about surviving famine conditions, *Chiu Huang Pen Ts'ao* (救荒本草), written

188 Li. 1990. p. 240.

189 Ibid.

190 Ibid.

191 Ibid. p. 241.

192 Ibid.

193 Ibid. p. 242.

194 Ibid.

during the early part of the Ming by the Emperor Hung-wu's fifth son, Chu Su (朱棣), 1361-1425.¹⁹⁵ Emperor Hung-wu's ascent to the throne was marked by his constant sympathy for the plight of peasants.¹⁹⁶ In an effort to combat hunger in the countryside, the Emperor's fifth son decided to try to cultivate plants from the wild in order to determine whether they could serve as foodstuffs for the impoverished peasantry.¹⁹⁷ Commissioning several people to survey conditions in the countryside as well as gather wild plants, Chu Su collected 400 different varieties of edible plants with which he created the first experimental botanical garden in Chinese history.¹⁹⁸ With the aid of several artists this work also depicts 414 different species of plants categorized by appearance, use, and flavor.¹⁹⁹

The Ming Dynasty was a period which witnessed more physician case-books published than in previous centuries.²⁰⁰ These case-books provide a rich source for confirmation on everyday medical practice during this period. For the first time, documentation about individual experiences and curative methods were written and published by physicians without fear of reprisal from the reporting of individual errors.²⁰¹ One example is a case-book written by Chiang Kuan (江瓘), 1503-1565, a physician from Anhui province. In addition to writing of the various cases he himself treated, Chiang went one step further by compiling a text which summarized a thousand years of

195 Li. 1990.. p. 233.

196 Ibid. p. 232.

197 Ibid. p. 233.

198 Ibid. p. 232.

199 Ibid. p. 234.

200 Ibid. p. 278.

201 Ibid.

case studies.²⁰² Chiang constantly advocated experience as the basis of practice, and whenever he presented case studies, he compared the earlier cited prescriptions with his own.²⁰³ By dating and comparing every treatment, Chiang's text allowed other physicians to choose their treatment based on this comparison. This case book, *Ming I Lei An* (名醫類案), "Famous Medical Cases," consisted of 12 volumes and included 205 different types of illness, each described with several different cases.²⁰⁴ The section on stroke alone included 52 cases while the section on typhoid included 117 cases.²⁰⁵ Started in 1549, Chiang's book was completed by his son in 1591. From that publication date, this work has been revised and frequently reissued; every 16 years, according to Li.²⁰⁶

Among scholars who reworked older medical texts, Chang ching yeh (張景岳), in 1624 rearranged and combined the two parts of the *Huang-ti Nei-jing* (*Su-wen and Ling Shu*, 靈 本區). The information was divided into twelve categories: dietetics, *ying/yang* theory, vital organs, physiognomy, pulsation, specimens, odors, disease, acupuncture, discussion and discourse, and the movement of *ch'i* ("vital energy"). The work contains Chang's commentaries and several sketches which illustrated the diversity of ancient medical theories from pre-Sung times.

Another publication included descriptions of the medicinal preparations found among some of China's minority populations. Lan Mao (蘭茂), 1397-1496, was a pharmacist from Yunnan province, near the Burma

²⁰² Chiang, Kuan (江坤寧). *Ming I Lei An* (名醫類案). 1957 edition (first edition casebook completed in 1591). People's Hygiene Publishing Co. (人民衛生出版社影印). Beijing, China. preface.

²⁰³ Li. 1990. pp. 278-279.

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Ibid. p. 280

border, who published a local medical publication, *Tian Nan Pen Ts'ao* (滇南本草) in 1476; in it are descriptions of over 400 different types of pharmacological preparations used by the different minority groups in that area.²⁰⁷ Medical publications also included works which encompassed religious elements in healing. Prince Chu Su was also responsible for compiling a prescription book, *P'u Chi Fang* (普濟方) in 1406 which included Taoist and Buddhist texts regarding prescriptions and dosages.²⁰⁸

The legacies of such comprehensive publications regarding pharmacology, herbal preparations, and medical case-books would come to be regarded as the cornerstones in medical thinking during the Ming Dynasty.

Conceptual Approaches

Similar to the upheaval of Confucianism during the Sung Dynasty, medical thought during the Ming experienced a fragmenting of ideas: individual thinkers pursued solutions from the past, others developed new ideas, while still others sought to conform conventional wisdom to current medical problems. Unschuld portrays medical thought during the Ming and Ch'ing eras within five categories: (1) **searching the interior**, which are adaptations of conventional theory, (2) **searching the exterior**, which included etiological principles based on philosophy and natural occurrences, (3) **searching the past**, which was a return to the classics and a platform for social commentary, (4) **searching down below**, which was the medicine practiced by the “common physicians”, and (5) **searching far ahead**, a redefinition of

²⁰⁷ Li. 1990. p. 235.

²⁰⁸ Ibid. p. 243.

conventional theory.²⁰⁹ Although this section of the paper will borrow Unschuld's classification, it must be noted that in the latter two sections (**searching down below** and **searching far ahead**), which contain the ideas most heterodox to classical thinking (both medical and non-medical), Unschuld writes only of examples from the Ch'ing Dynasty, leaving the feeling that he does not believe that there is sufficient evidence to claim that similar ideas existed during the Ming. Therefore, this section, in addition to Unschuld and other historians' writings, will draw on several primary sources which were located at the China Academy of Traditional Chinese Medicine in Beijing, China during the summer of 1993 and will attempt to show that, in fact, there were many ideas which existed during Ming Dynasty China which not only can be classified within these categories, but also demonstrate that the composition of medical thought was both rich in diversity and broad enough to include several heterodox ideas. To fortify this assertion, the category of **searching far ahead** will be expanded to include foreign influences and medical advances.

The organization of this section, by classifying medical thought into these five categories, will demonstrate not only the rich diversity of medical philosophies but also the emergence of a renaissance in medical thinking. The first section, **searching the interior**, consists of adaptations to conventional theory. Basic conventional theories of *yin/yang*, the Five Phases are defined as the history of applications of these theories is discussed. This section will demonstrate the applications and reinterpretations of conventional medical philosophy during the Ming Dynasty. The second section, **searching the exterior**, consists of the development of ideas which

²⁰⁹ Unschuld. 1985. pp. 197-215.

were based more on etiological principles than on medical experience. It is here that one can see the impact of religious influence and folklore. Beliefs in natural elements as a source of illness are demonstrated through the exploration of the concept of *wind* as a cause of illness and the treatises devoted to this topic during both the Sung and Ming Dynasties. There is also mention of demonic medicine. The third section, **searching the past**, explains a “movement” to return to the past. That is, several Ming medical writers believed that a return to the original texts of philosophy and medicine was indicated during a time when much of the practice of medicine was discredited. It was a movement which included the *Han-hsüeh* tradition (return to works written during the Han Dynasty) and allowed individual writers a platform for social commentary. The fourth section, **searching down below**, includes examples which were alternatives to conventional theory that was practiced among the “common physicians”. Topics such as inoculation, anesthesia techniques, and pharmacopoeias are explored as well as several citations from case-books written during the Ming. The fifth section, **searching far ahead**, is about the redefining of the traditional basis of medical thought as well as the advances which occurred during this period. This section attempts to explore the influences of foreign exchange and minority group medicine in China while citing some of the achievements in acupuncture of that era.

The primary sources which were drawn upon in the conceptual approaches section were located at the China Academy of Traditional Chinese Medicine in Beijing, China during June and July of 1993. The following is a list of these sources which consist of diaries and casebooks written during the Ming and Ch'ing Dynasties:

1. *Ku Chin Tu Shu Chi I Pu Chiian Lu* (古今圖書集成醫部錄), by Ch'en Meng Lei (陳夢雷). original published during Ch'ing Dynasty
2. *Wai K'o Cheng Chung* (外科正宗), by Ch'en, Shih-kung (陳實功). 1555-1636; first edition published in early seventeenth century
3. *Ming I Lei An* (名醫類案), by Chiang, Kuan (江瓘). first edition published in 1591
4. "Ma Shih Re Ch'ao" (馬日抄), a section of *Yeh Shu Chi Cheng* (嚴書集成), by Ma Yu (馬愈) original published during Ming Dynasty

Searching the Interior

For the adaptation of conventional theory, one must keep in mind that many of these theories were Sung adaptations of very early concepts and later adopted in an even more modified form by adherents during the Ming period who held them as eternal truths.²¹⁰ Just as Neo-Confucianists continued conventional Confucianism, applied it to practical matters, or simply reinterpreted the philosophical meanings, medical thought also had advocates who were proponents of conventional theory, who left its applications unchanged, or who reinterpreted other interpretations. This section will define some basic tenets of conventional medical theory and depict examples of individual scholars who either applied these theories without much change or continued to modify already reinterpreted theories.

Definition of Conventional Theory:

To illustrate the adaptations during both the Sung and later the Ming, one must first define the basic concepts of *yin/yang* (陰陽) and the Five Phases.

The *yin/yang* theory was a concept which appeared during the fourth

²¹⁰ Unschuld. 1985. p. 198.

century B.C. based on an understanding that the relationships between all phenomena are dualistic or complementary in nature.²¹¹ All natural phenomena can be viewed as manifestations of two opposed yet complementary categories which vary in influence at different times, but should always be in balance. The earliest application to medicine is in the *Huang-Ti Nei-ching*²¹² in which this theory is used to define disease or illness as an imbalance of two forces.

The Five Phases was a doctrine created by Tsou Yen (繩衍), ca. 350-270, which operated on the idea of associating natural phenomena and abstract concepts into five lines of correspondence. Instead of using abstract notions, he chose tangible as well as easily understood phenomena: fire, water, earth, metal, and wood (see Figure 1). From these five lines of correspondence came a total of sixteen mutual relationships among the different lines, the most famous being of mutual destruction.

Water overcomes fire; fire melts metal; metal- in the form of a knife, for instance- overcomes wood; wood- as in a spade- overcomes soil; soil- as in a dike- subdues water.²¹³

Water/ watering produces plants and trees, that is, wood; wood brings forth fire; fire produces ashes, that is, soil; soil brings forth metal; when heated, metals produce steam, that is water.²¹⁴

The association of these natural phenomena with abstract notions in five lines of correspondence was termed, *wu-hsing* (五行) or “Five Phases” to reflect the dynamism of the term *hsing* (literally: “to proceed”).²¹⁵ The various interpretations of the Five Phases doctrine coupled with the *yin/yang*

²¹¹ Unschuld. 1985. p. 55.

²¹² *Ibid.* p. 56.

²¹³ *Ibid.* p. 59.

²¹⁴ Needham, Joseph. *Science and Civilization in China* volumes I, II, and V/2. Cambridge. 1956. pp.253-255.

²¹⁵ Unschuld. 1985. p. 59.

concept were resolved by categorizing the Five Phases as being the central or neutral state and allowing a *yin/yang* categorization to coexist. Essentially, these concepts were extended to the body and imbalances among these “forces” were ascribed as the pathology behind disease.

Application of Conventional Theory:

During the Sung Dynasty, one particular school developed from Chu Chen-heng (朱震亨), 1281-1358, which became known as *yang yin* (養陰), “nourish yin”, and was based on the notion that a deficiency of yin influences was the primary cause of human illness. Also developed during the Sung Dynasty were the theories of Li Kao (李杲), 1180-1251, known as the *wen pu* (溫補), “replenishment with warmth”, course. The specific etiology he advocated was based on a citation about the importance of the digestive system found in the *Huang Ti Nei-Ching*.²¹⁶ Li Kao felt that the *yang* influences were the crux of human life, accumulating in the digestive region and derived from *yin* influences.²¹⁷ Excessive exhaustion or irregular consumption would affect the digestive region and prevent *yang* influences from accumulating or radiating to other parts of the body. His theory was to replenish the stomach and digestive area with influences that would correct the imbalance, but mainly with substances which radiated warmth. This would replete the fire in the organism and hence prevent premature extinguishment.²¹⁸

During the Ming Dynasty, synthesis of the views of Chu Chen-heng and Li Kao were undertaken in 1550 by Hsueh Chi (薛己).²¹⁹ Hsüeh Chi

²¹⁶ Unschuld. 1985. p. 178.

²¹⁷ ibid.

²¹⁸ ibid. p. 198.

²¹⁹ ibid.

(1488-1558), a well-respected internist,²²⁰ accorded special significance to the spleen, stomach, and kidneys. He interpreted illness as a disruption of the processing ability of the spleen and stomach of *yang* influences and prescribed warming substances as a means to combat this phenomenon. He also believed that cooling therapy was a necessity to control the fire in the kidneys. In accordance with the Five Phases and the *yin/yang* theory, if the fire in the kidneys burned out of control, a deficiency of *yin* influences would occur. Hsüeh Chi prescribed warming therapy for increasing *yang* and at the same time administered cooling therapy to prevent a deficiency of *yin* influences.²²¹ Hence, pathology was based on deficiencies in either *yang* or *yin*, unlike earlier emphasis on replenishing *yang* only.

Despite this theory, Unschuld writes that it appears Hsüeh Chi realized that human illness did not fall within only one or two patterns and that treatment was really individual-based;²²² Li Jingwei is more emphatic in stating that Hsüeh Chi, unlike many of his peers, stressed the importance of combining one's experience with theory and hence would indeed have formulated individual-based treatments.²²³

Application of Conventional Theory Unchanged:

Adaptation can also include a continued application of conventional theory without alteration. In a journal regarding medical matters from the Ming Dynasty compiled during the Ch'ing Dynasty by Ch'en Meng Lei

²²⁰ Li. 1990. p. 256.

²²¹ Unschuld. 1985. p. 198.

²²² Ibid.

²²³ Li. 1990. p. 256.

(陳夢雷),²²⁴ there is a description of an account where a Ming Dynasty premier, Sung Lien (宋濂) had fallen ill and was nursed back to health by a disciple of a physician named Chu Tan Hsi (朱丹溪) who used the doctrine of the Five Phases with its corresponding association with emotions.²²⁵ It was believed that the premier's illness was compounded by an anger he felt (an emotion corresponding to the wood phase) and as only the metal phase can overcome the wood, sadness (corresponding to the metal phase) was used to overcome this anger.²²⁶

Reinterpretations of Conventional Theory:

Theories developed during the Sung Dynasty regarding conventional medicine (*yin/yang*, the Five Phases, systematic correspondence) were not only adapted by Ming Dynasty proponents, but reinterpreted. These reinterpretations were themselves also challenged by other Ming thinkers.

Chang Chieh-pin (張介賓), fl. 1624, an author cited in several medical works, formulated a military-like theory to combat illness.²²⁷ Having failed a military career, Chang turned to medicine, but viewed illness as an enemy, hence adopting military terms for eight different forms of therapy. His "strategic formations", *pa-chen* (八陣) utilized drugs in the same fashion one would deploy troops. His therapeutic plans involved balancing *yin/yang*, but his perception of *yang* influences differed from Chu Chen-heng's teachings. Using citations in the *Huang Ti Nei Ching* which depict the *yang* influences as the source of existence and *yin* influences as merely providing the physical

²²⁴ Ch'en, Meng Lei (陳夢雷). *Ku Chin Tu Shu Chi I Pu Chüan Lu* (古今圖書集成醫部全錄). original written during the Ch'ing Dynasty. 1962 edition published by People's Hygiene Publishing Co. (人民衛生出版社影印). Beijing, China. 1962. vol 12: pp. 430-431.

²²⁵ Ibid.

²²⁶ Ibid.

²²⁷ Unschuld. 1985. p. 199.

structure to life, he concluded that only the deficiency of *yang* influences could cause illness and death, not *yin*.

The “battle tactics” theory itself became a source of contention. An example was an essay, “Discourse on Medical Matters”, written by Wang I (王子衡) and found in Chen Meng Lei’s journal in which Wang writes that the “battle tactic” approach was inappropriate for the people of the Ming Dynasty.²²⁸ The premise was that during the Yuan Dynasty, the populace’s constitutions were much stronger than the populace’s of the Ming Dynasty (early Ming population still recovering from dynastic overthrow and warfare conditions).²²⁹ Hence, the “battle tactics” used for treating the people during the Yuan were purgative methods and designed for bodies of strong constitution. People of the Ming, weak from famine and warfare, could not tolerate “battle tactics”, and instead needed restorative methods designed for weaker constitutions.²³⁰ Restoration and reservation of *yuan-ch’i* (“vital essence”) would allow recuperation and prevention of illness.²³¹

Anatomical Relationships:

In the *Huang-ti Nei-ching* and the *Nan-ching*, there were many allusions to the physiological organization of bodily organs. Many citations were interpreted throughout the the dynasties leading up to ideas of organ hierarchy (the heart as the ruling official), depots and palaces within the body which housed *ch’i* and were affected by *yin* and *yang* influences, and life sources or the Gate of Life.²³² During the Ming Dynasty, there was often

²²⁸ Ch’en, Meng Lei. 1962 edition. pp. 434-435.

²²⁹ Ibid.

²³⁰ Ibid.

²³¹ Ibid.

²³² Unschuld. 1985. pp. 200-201.

discussion and debate over what the Gate of Life really was and how it worked.²³³ One example was Chao Hsien-k'o (趙獻可), a contemporary of Hsüeh Chi, who deemed it necessary to introduce a new idea about the controversial Gate of Life.²³⁴

He argued that the two kidneys should be considered as water, separated by an amorphous fire, the Gate of Life, and while physical fire is extinguished by water, formless fire is created by water. This relation was extended by considering the Gate of Life as the point of origin for the essential influences (*yin/yang* and the Five Phases). In short, deficiencies of any of these influences affecting the depots and palaces of the body (compartments) would result in illness.²³⁵

Insufficient radiation by the Gate of Life to the kidneys results in a diminished sexual drive. If the Gate of Life does not supply the bladder with sufficient influences, the water passages become obstructed. If the spleen and stomach lack influences from the Gate of Life, they lose their ability to digest substances and to direct the five flavorsthat are assimilated from foodstuffs to the appropriate regions of the body. If the liver and gall bladder are insufficiently supplied, the victim's decision-making and planning abilities are affected.²³⁶

Searching the Exterior

As much as conventional theory was adapted to Ming times, so was the development of ideas based more on etiological principles and philosophy than medical experience. In these particular theories one can see the unmistakable influence of religion, philosophy, and folklore, but in some, the concepts can be classified as proto-scientific. This section will introduce a concept which was furthered during the Ming in which natural elements

²³³ Unschuld. 1985. p. 201.

²³⁴ Ibid. p. 200.

²³⁵ Ibid. p. 201.

²³⁶ Ibid.

were regarded as causes of illness. This section will explore the concept of *wind*, warmth epidemics, and cold-induced afflictions in light of several works regarding the epidemics which struck China during the Ming Dynasty. There will also be some discussion of demonic medicine which will merit further citation in later sections.

Wind :

Kung T'ing-hsien (龔廷賢), fl. 1615, was a Ming author responsible for advocating an older concept of wind being the primary source of illness. Kung, unlike other proponents of older theories, avoided contemporary debates and has been criticized as carrying on the naive application of theories and practices from the classics in their original style.²³⁷ Wind as a source of illness had been mentioned in ancient oracle bones and later as a concept in the *Huang-ti Nei-ching*.²³⁸ Although the tone of the *Huang-ti nei-ching* is said to emphasize the importance of treating conditions based on observation and not the cause of the illness, one major anomaly is the emphasis on "wind" being responsible for numerous afflictions.²³⁹ This theory was based on the idea that symptoms varied depending on whether the "wind" had affected the various depots, palaces, blood vessels, or other conduits in the body. Kung identified wind-related sources of illness included cold, heat, dampness, fire, incorrect foods, and sexual overexertion.²⁴⁰ Although Kung recommended medications to correct these deficits, he largely ignored the conventional physiological connections between cause and symptom.²⁴¹

²³⁷ Unschuld. 1985. p. 204.

²³⁸ Ibid.

²³⁹ Ibid. p. 169.

²⁴⁰ Ibid. p. 205.

²⁴¹ Ibid.

During the Sung Dynasty, Ch'en Yen (陳言) had incorporated these same etiological principles into a system which categorized causes of illness as external, internal, or neither. Kung showed no interest in this work and did not develop his own categorization beyond distinguishing the parts of the body which could be affected by wind.²⁴²

Shang-han lun (傷寒論) and Epidemics:

Wu Yu-k'o, *ming Yu-hsing* (吳又可, 石有性), fl. 1644, according to Unschuld, was a well-known physician of the sixteenth century who believed that the primary therapeutic objective was to suppress or eliminate evil influences which may have penetrated the body and produced illness.²⁴³ This concept was not too dissimilar to the “demons” first mentioned during the first millennium B.C. as causative agents of illness. It is disputed exactly what theory Wu was really espousing.^{244,245} His treatise regarding an epidemic which struck the provinces of Shantung, Henan, and Chekiang during the end of the Ming Dynasty (1641-1644), *Wen-i-lun* (溫疫論), “On Warmth Epidemics” was considered one of his most famous works.²⁴⁶ In it, he recorded symptoms of the victims which included head, back, hip, and eye pain, deafness, vomiting, alternating hot and cold fits, abdominal pain and constipation. These symptoms resembled what was known as “cold-induced maladies” (*shang-han*, 傷寒), a well-known concept from the Han Dynasty (202 B.C.-220 A.D.).²⁴⁷

²⁴² Unschuld. 1985. p. 205.

²⁴³ Ibid.

²⁴⁴ Ibid.

²⁴⁵ Li. 1990. p. 255.

²⁴⁶ Unschuld. 1985. p. 205.

²⁴⁷ Ibid. pp. 205, 168.

The concept of cold-induced afflictions is credited to Chang Chung ching (張仲景), 142- 220, who was almost exclusively interested in the effects of “cold” being the source of numerous illnesses²⁴⁸ and hence wrote the *Shang-han lun* (傷寒論), “On Cold-Induced Bodily Injuries.”²⁴⁹ He was the first author to devote his work to only one specific etiology, a reductionism that was often seen in later dynasties.²⁵⁰ During the Sung Dynasty, multiple treatises about cold-induced maladies were written²⁵¹ and later studied, reinterpreted, and modified by Ming medical authors.²⁵² These modifications, in actuality, often recategorized the pathogenesis of cold-induced maladies and even sought other etiologies. One example, cited in Li Jingwei’s index of medical personnas,²⁵³ was a medical author from the late Yuan and early Ming Dynasties, Wang Lu (王履), 1332-?, whose main interest was in the *Shang-han lun*. He attempted to extract the specific etiologies of several cold-induced maladies and wrote *Pai Ping Kou Hsüan* (百病綱玄), “Etiological search for a hundred illnesses”.²⁵⁴ Although this text no longer exists, Wang is said to have taken the methods delineated in the *Shang han lun* to distinguish among as well as devise treatments for febrile illnesses, particularly *wen ping* (溫病), “warmth” or epidemic febrile illnesses versus *jē ping* (熱病) “hot” or any febrile illnesses due to exogenous factors.²⁵⁵

As for the epidemic cited from 1641-1644, it was one of nineteen which

248 Li. 1990. p.254.

249 Unschuld. 1985. p. 168.

250 Ibid. p. 169.

251 Ibid.

252 Li. 1990. p.255.

253 Li, Jingwei (李經纬) and Fu, Fang (傅芳). Chung I Jen Wu Tzu Tian (中醫人物詞典). Shanghai Dictionary Publishing Co. (上海辭書出版社). 1988. p. 32.

254 Ibid.

255 Ibid.

struck between the years of 1408 and 1643.²⁵⁶ Unschuld writes that Wu Yu-k'o was able to use saltpeter to achieve convincing success and in his *Wen-i-lun*, he explains the imbalance, although resembling cold-related afflictions, was in fact due to an evil influence, *li-ch'i* (竈氣) that entered an area between the inner and outer regions of the body and after a period of incubation became acute and required treatment.²⁵⁷ Li Jingwei, on the other hand, writes that Wu actually used a similar term, *lei-ch'i* (戾氣), and defined it as an airborne virulence rather than an evil influence in that different virulences would affect different species.²⁵⁸ Citing from Wu's writings the statement: “萬物各有宜忌,宜者益而忌者損,損者制也,故萬物各有所制” (All species have systems which respond to beneficial or harmful substances; but what may be harmless to one species is actually harmful to another), Li is able to conclude that Wu was actually describing species-specific immunities.²⁵⁹

It is easy to see that the two accounts are in dispute with Li drawing more of a parallel to current infectious etiological theory than Unschuld. If Wu had really been espousing a pre-modern immunological theory, then Unschuld's interpretation may have been more a reflection of another concurrent phenomenon. This phenomenon was the support among Ming Dynasty writers for the concept of malevolent “influences” attacking individuals as evidenced by the number of speculations regarding the nature of such “attacks”.²⁶⁰ Such speculations proved to be the grounds for questioning the moral uprightness of an individual in regard to his

²⁵⁶ Li. 1990. p. 251.

²⁵⁷ Unschuld. 1985. pp. 205-206.

²⁵⁸ Li. 1990. p. 253

²⁵⁹ Ibid.

²⁶⁰ Ibid. p. 216.

immunity and certainly a platform for advocating strict moral behavior in society.

Demonic Medicine:

Regardless of the social platform, medicine caused by “demons” was a concept reinstated and included in prevailing medical thinking.²⁶¹ One example, Li T'ing (李梃), fl. 1517, wrote a text *I-hsüeh ju-men* (醫學入門), “Introduction to Medicine” which adopted classical demonological concepts in both etiology and therapy but ignored the framework of *yin/yang* and the Five Phases.²⁶² Depicting causes and symptoms as sudden attacks by evil spirits, he advocated treatments to expel demons by noise making, burning, and fumigation; the drugs employed were peach branches and peach leaves, “which symbolized archery weapons constructed in antiquity and which penetrated into the body.”²⁶³ But while Li T'ing ignored the classic medical concepts, others merely described demonic medicine as one branch within the framework of orthodox medicine.^{264, 265}

Searching the Past

According to Unschuld, when scholars of the seventeenth and eighteenth centuries began to question the merits of Sung Neo-Confucianism as a political and moral doctrine, a movement to reexamine the true and genuine Confucian writings became necessary for politically conservative

²⁶¹ Unschuld. 1985. pp. 195, 216.

²⁶² Ibid. p. 217.

²⁶³ Ibid.

²⁶⁴ Ibid. p. 216.

²⁶⁵ Li. 1988. p. 299.

forces to support.²⁶⁶ At the end of the Ming, when China again fell into the hands of northern invaders, a fervor to seek the true interpretation of original Confucian writings became all the more pressing, since Sung Neo-Confucianism had twice been helpless in the face of invasion. It was hoped that the original works would shed light on what could make China strong again. A movement called the *han-hsüeh* (漢學), "Han school" became a means to question the philological rigors of Neo-Confucianism in both the Sung and Ming Dynasties. Seen as more characteristic of early Ch'ing than late Ming, this movement applied, strictly speaking, only to a philological tradition developed at the end of the seventeenth century by philosophers confining their study to Han commentaries.²⁶⁷ Nevertheless, this movement was reflected in medical literature during the Ch'ing Dynasty and its roots were reflected in medical literature from the Ming Dynasty.²⁶⁸ In addition, scholars often used the state of affairs as a platform for social commentary.

Han-hsüeh:

Fang Yu-chih (方有執), fl. 1593 was, according to Unschuld, one of the earliest proponents of the medical *Han-hsüeh* tradition.²⁶⁹ Because works such as the *Huang-ti Nei-ching* and the *Shang-han lun* were pre-Sung Dynasty (pre-Neo-Confucianism), they were believed to contain the wisdom that was no longer understood in the corrupted form in which it was passed down.²⁷⁰ Fang devoted twenty years to understanding the true substance of

²⁶⁶ Unschuld. 1985. p. 208.

²⁶⁷ Gernet. 1982. p. 512.

²⁶⁸ Unschuld. 1985. p. 209.

²⁶⁹ Ibid.

²⁷⁰ Ibid.

Chang Chung ching's *Shang-han lun* and compiled an analysis of the individual sections of Chang's work.²⁷¹

Lu Fu (盧復), fl. 1616 initiated studies into the reconstruction of the *Shen-nung pen-ts'ao ching* (神農本草經), the classic of pharmaceuticals compiled during the early Han Dynasty. His work would later be continued throughout the Ch'ing Dynasty, well into the nineteenth century.²⁷²

A Platform for Social Commentary:

The belief in returning to the original classics of medicine in order to glean the wisdom of theory and ideas was not restricted to diagnosis and therapy alone. There exist accounts of medical writers who were dismayed by the poor attitudes they noticed in physicians and used this deplorable situation as a pulpit for social commentary. In excerpts from Wang I (王辟) 's essay on medical matters,²⁷³ one sees great dissatisfaction with physicians of the time, who were cited for carelessness, poor understanding of *yin/yang* theory, stock treatments for illnesses regardless of etiology (warm vs. cold sources, superficial vs. deep pulsation), and inattentiveness to changes in symptomatology.²⁷⁴ Continuing the diatribe, he states that the physicians' educational objectives no longer included the understanding or investigation into the medical classics, rather only into the means for self-promotion and material gain.²⁷⁵

Searching Down Below

Unschuld writes that an alternative approach to medical thought in

²⁷¹ Li. 1990. p. 255.

²⁷² Unschuld.1985. p. 209.

²⁷³ Ch'en, Meng Lei.1962 edition. pp. 434-435.

²⁷⁴ Ibid.

²⁷⁵ Ibid.

which there is a departure and even absence from the conventional theories of *yin/yang* and the Five Phases was largely practiced among itinerant practitioners who served the segment of the population who did not have access to the medicine practiced by the educated and established physicians.²⁷⁶ Although Unschuld refers to only one work from the Ch'ing Dynasty which documents this type of approach [Chao Hsüeh-min's (趙學敏), ca. 1730-1805 *Ch'uan-ya* (串雅), "A Series of Outstanding Guidelines"], evidence of this "alternative thinking" can be found among writings by both itinerant practitioners as well as established physicians during the Ming Dynasty. Unschuld, while upholding the *Ch'uan-ya* as "the sole Chinese medical work prior to the arrival of modern Western pharmacology that offers an alternative explanation of how drugs function in the body,"²⁷⁷ adds that many of the ideas from the lower strata of society were considered unattractive to large numbers of scholars during the Ch'ing.²⁷⁸

Unschuld's assertion about the unpopularity of these ideas among the scholarly classes was to some degree also true during the Ming Dynasty. However, several of the practices and theories prevalent at that time were very much in tandem with the concept that medicine should be experience-based and was endorsed by several well-respected practitioners of medicine. The methods described were based largely on experimentation, rather than on the conventional theories of *yin/yang*, the Five phases, or the commonly-held beliefs regarding anatomical structures. That is not to say that the authors who often advocated such practices were not influenced by conventional theory, but their writings indicate that their own methodology

²⁷⁶ Unschuld.1985.p. 211.

²⁷⁷ Ibid.

²⁷⁸ Ibid. p. 212.

adhered more to individual cases as well as to their own experience and experiments.

This section will delineate the history of inoculation in China, cite several casebooks written by Ming physicians and surgeons (several of which were located in the libraries in Beijing), describe the evolution of anesthesia mixtures, and discuss some of the merits of Li Shih-chen's *Materia Medica*.

Inoculation:

During the third century A.D. a curative concept called *I-tu-kung-tu* (以毒攻毒), "Combat poison with poison" was first utilized when physician Ko Hung (葛洪) applied a paste made from rabid dog brains to wounds inflicted by rabid dogs.²⁷⁹ By the seventh century, this concept had been extended to a prophylactic level when the physician Sun Si-mao (孫思邈) ground the scabs from infected blisters and planted the substance subcutaneously into healthy individuals in order to combat infection.²⁸⁰ Ch'ing Dynasty's Chung Yü-shan (董玉山) wrote in 1884 a historical account about the development of cowpox and smallpox inoculation called *Niu tou hsin shu chung tou yen liu* (牛痘新書 · 种痘源流) in which he states that in the eighth century, around 713-741, a man named Chao (趙) had already begun to use the scabs from smallpox to administer to people intranasally for prophylaxis.²⁸¹ This account, however, is somewhat disputed.²⁸² Yet by 1000 A.D. this practice, known as variolation in the West, in which the inoculated person would contract a milder form of the disease, recover without difficulty, and remain

²⁷⁹ Li. 1990. p. 246.

²⁸⁰ *Ibid.*

²⁸¹ *Ibid.* p. 247.

²⁸² *Ibid.*

relatively immune was indeed documented.²⁸³ Another Ch'ing author, Chu Tsun-hsia (朱純祿) wrote in 1713 a discourse on inoculation entitled *Tou chen ting lun chung tou lun* (痘疹定論 · 种痘論) in which he states that during 1023-1063, the Imperial Secretariat Wang Tan (王旦) was in search of a physician who could immunize his children from smallpox. He hears of a practitioner who resided on O Mei mountain (峨眉山) in Szechuan province who practiced intranasal variolation with great success for the people who lived in the area. Wang, hence, commissioned this practitioner to inoculate his children.²⁸⁴ Aside from these early accounts, it wasn't until the sixteenth century that variolation was widely documented as the most effective method to combat the scourge of smallpox as evidenced by the multitude of casebooks attesting to popular variolation.²⁸⁵ Yet what started as widespread among the population during the Ming only became officially sanctioned by the imperial court during the first part of the Ch'ing Dynasty, when the Emperor K'ang Hsi (1661-1722) decreed that all physicians must study smallpox inoculation and that inoculation was mandatory for the Manchu population.²⁸⁶

Casebooks:

As mentioned previously, the Ming Dynasty witnessed more casebooks written by physicians than in previous dynasties.²⁸⁷ Also discussed earlier, Chiang Kuan's (江鑑), 1503-1565, *Ming I Lei An* (名醫類案), "Famous

²⁸³ Summers, William C. "Congruences in Chinese and Western Medicine from 1830-1911: Smallpox, Plague and Cholera". Yale Journal of Biology and Medicine. Yale University Press. New Haven, Connecticut. 1994. vol. 67: p.25.

²⁸⁴ Li. 1990. p. 247.

²⁸⁵ Ibid. pp. 247-248.

²⁸⁶ Ibid. pp. 248.

²⁸⁷ Ibid. p. 278.

Medical Cases" contained cases which had been described over a span of 1000 years and according to Li Jingwei contained 205 different types of illnesses with several cases which could range the gamut of each type of illness.²⁸⁸ The cases that Chiang reports, in actuality, seem to run the gamut of different healers' experiences rather than the different presentations of an illness.²⁸⁹ Chiang's casebook is not free of conventional theory: there are several cases which contain the theories of the Five Phases and vital energy (*ch'i*) pathways. However, there are also cases that are experience-based with no mention of an underlying theory, allowing Chiang to present what he believed was the range of presentations and therapies used for common illnesses. For example, three of the cases which he described about goiter demonstrate stories and medical accounts from the common population which did not utilize the established orthodox medical theories.²⁹⁰ The first is a case/story set during the Yuan dynasty in Henan province where a singer's wife suffered from a lump "the size of a chicken egg" on the side of her neck.²⁹¹ This lump over the span of 5 years grows to such an enormous size that the woman becomes unable to walk without difficulty. Over the course of yet another several years, the lump becomes covered with "nodules." At this point, the case takes on a tone which seems appropriate for describing an incident of demonic medicine. The lump emits a sound and the nodules begin to emit "white smoke."²⁹² Fearing the worst, the husband cuts off the growth, a "little demon" jumps out from the middle, and the

288 Li. 1990. p. 278.

289 Chiang, Kuan (江瑞). *Ming I Lei An* (名醫類案). 1957 edition (first edition casebook completed in 1591). People's Hygiene Publishing Co. (人民衛生出版社). Beijing, China.

290 *Ibid.* p. 266.

291 *Ibid.*

292 *Ibid.*

woman is cured.²⁹³ The second case tells of a prefecture named Ju Chou (汝州) in which many individuals suffered from swellings on their necks.²⁹⁴ It was an area in which sand often polluted the wells and the inhabitants upon drinking the well water would become afflicted with these "growths."²⁹⁵ Some of the inhabitants, however, would place tin into the water and would not suffer the illness.²⁹⁶ The third case is an account by a monk who walked to an area in Henan called Kuan Hsia (管下) where the inhabitants all suffered from swellings on their necks.²⁹⁷ Around the area was a temple where a Lo Yang monk lived. This monk would add sea salt to every meal and within a few months, the swelling on his neck disappeared. The inhabitants in this area soon followed his example and were also cured.²⁹⁸

Although Chiang presented a slice of medicine based on itinerant practice rather than theory or philosophy, it is the surgical casebooks from the Ming which seemed most in spirit with the "alternative approach" of experience or experiment-based medical thought. Two surgical casebooks from the Ming Dynasty which illustrate this concept are Wang K'en-t'ang, *tzu Yü-t'ai* (王肯堂,字宇泰)'s, 1549-1613, *Wai K'o Chun Shen* (外科準繩), "Surgical Standards," written in 1602 and Ch'en Shih-kung, *tzu Yü-jen* (陳實功,字誠正)'s, 1555-1636, *Wai K'o Cheng chung* (外科正宗), "Basic Surgical Principles." The case reports from these two texts show a remarkable deviation away from the traditional thinking: Wang's casebook offers an alternative explanation for contagious disease, while Ch'en's casebook

²⁹³ Chiang, Kuan. 1957 edition. p. 266.

²⁹⁴ Ibid.

²⁹⁵ Ibid.

²⁹⁶ Ibid.

²⁹⁷ Ibid.

²⁹⁸ Ibid.

outlines surgical techniques and development in anesthesiology remarkable for a population wary of surgical intervention.

Wang K'en-t'ang was a scholar-official who later turned to medicine after falling out of favor with the imperial court.²⁹⁹ Interested in the theories of *Shang-han-lun*, Wang was exceptionally well-versed in medical classics and maintained an interest in surgical techniques. His surgical casebook offers both surgical techniques and an alternative explanation to pathological agents for infectious disease.³⁰⁰ In this casebook, Wang describes case reports of individuals who acquired local pustules and constitutional symptoms of fever, joint and abdominal pain after having contact either with some batches of shorn wool or slaughtered animals.³⁰¹ Wang concluded that "these animals contained a poison which is carried in their flesh and when one ingests this meat, one will be afflicted."³⁰² Wang also describes how other contagions are passed, particularly skin contact with venereal disease.³⁰³ These accounts show that instead of ascribing sources of infectious illness to internal imbalance or external natural elements (wind, warmth, cold), Wang offers an explanation that a substance which develops in dead carcasses can be transmitted and cause illness.³⁰⁴ In addition, he details the techniques for setting bones and for tumor excision, warning that unless instruments are heated to "fire-red" prior to use, infection will soon follow.³⁰⁵ Wang is also credited for the first report of a case of male breast cancer.³⁰⁶ What is

299 Li. 1990. p. 258.

300 Ibid.

301 Ibid. p. 259.

302 Ibid.

303 Ibid.

304 Ibid.

305 Ibid.

306 Ibid.

interesting is that although he furthers the theory of *Shang-han lun* in his other writings, through his surgical casebook, he furthers medical thought by offering alternative pathological explanations and describing surgical techniques without relation to conventional theory.

As for Ch'en Shih-kung's casebook,³⁰⁷ the surgical techniques he describes are not only based on experience and experimentation, but remarkably comprehensive given that popular Confucian belief rarely trusted surgical intervention.³⁰⁸ This casebook describes 100 types of illnesses or problems commonly treated by surgical intervention.³⁰⁹ For each type of illness, the text is organized into four parts: pathology, symptoms, treatment, and typical cases.³¹⁰ Included are discussions as well as 30 anatomical charts and drawings (see Figure 2). One example is a discussion about how to treat failed suicide attempts (i.e. slitting the throat). The following account is a translation from the original text:

Those who slash their throats require early intervention for if one waits until the forehead is cold and the breathing is shallow, the task becomes much more difficult. If the patient has slit his throat but has not affected the trachea and if his forehead is not cold, then use silk sutures to close the wound and cover the sutures first with loose peach blossoms followed by four or five sheets of cotton as a bandage. Place the head in a sling and secure with bandages around the head. Keep the head elevated at all times with pillows.

If it is winter or summer, do not allow too much exposure to the wind. Keep covered until breathing returns to normal. Several times a day, [have the patient] drink the following recipe: mash 5 slices of ginger, 6 grams of ginseng, and a handful of *chou tsai* (仇采) into a porridge-like mixture. After 3 days, take off the bandage around the throat, and rewrap with unused peach blossoms and cotton. After 2 days, wash the wound with a thick broth made from scallions and then rinse. Apply the salve, *t'ao yu huang* (桃玉紅) and cover with thin pieces of cotton. Next rub *chang hei* (長黑) around the throat, close to the wound, and tape four knuckle-lengths of bandaging before finally wrapping an outer silk bandage around the throat. If it is winter, clean the wound every 3 days; if summer, every 2 days. The wound should slowly heal [over a

³⁰⁷ Ch'en, Shih-kung. *Wai K'o Cheng Chung* (外科正宗). first edition published in early seventeenth century. 1956 edition . People's Hygiene Publishing Co. (人民衛生出版社). Beijing, China.

³⁰⁸ Li. 1990.

³⁰⁹ Ch'en, Shih-kung. 1956 edition. preface: p. 1.

³¹⁰ Ibid.

period of 40 to 100 days].³¹¹

Chen's casebook also describes instruments used for extracting fishbones lodged in throats³¹² as well as methods to remove nose polyps.³¹³ The removal of nose polyps involved application of a local anesthetic, *huei hsiang shan* (茴香散) which was blown into the nostril.³¹⁴ After achieving local numbness, a copper stick with 5 cm. length threads on the ends was used to tie and pinch off the growth.³¹⁵ Afterward, a salve with numbing properties was applied to the area.³¹⁶

Anesthesia and Pharmacopoeias:

Concoctions for local and general anesthesia had been developed over the centuries, but the documentation of exact amounts, recipes, and application was found mainly in the pharmacopoeias as well as a few of the surgical casebooks from the Ming Dynasty.³¹⁷ Li Shih-chen's *Pen Ts'ao Kan Mu* is considered to be one of the greatest contributions to medicine during the Ming Dynasty, containing notes on over a thousand different plant extracts and almost five hundred different animal extracts for medicinal uses.^{318, 319} Li Shih-chen's pharmacopoeia was based on experimental trials using both animal and human subjects³²⁰ as well as on the uses of extracts documented in previous centuries. Li Jingwei asserts that Li Shih-chen never

311 Ch'en, Shih-kung. 1956 edition. p. 228.

312 Li. 1990. p. 261.

313 Ibid. p. 262.

314 Ibid.

315 Ibid.

316 Ibid.

317 Ibid. pp. 262-263

318 Gernet.1982. p. 442.

319 Li. 1990. p. 240.

320 Ibid. p. 238.

included an extraction if he did not first judge its medicinal validity through either personal experience or by experiment.³²¹ One example cited is a solution for general anesthesia:

Take the petals from the *man t'ou jou hua* (曼陀罗花) to be picked in August and the petals from the *huo ma jen hua* (大麻仁花) to be picked in July. Dry in a cool location and then grind into a powder to be mixed with warm wine; once administered, no feeling is possible.³²²

Unschuld in explaining the importance of Ch'ing Dynasty's *Ch'uan-ya* states that it "provides us with an indication of notions prevailing among the lower strata of the population, views that diverge greatly from those found in the scholarly writings of the upper levels of society."³²³ Unschuld implies that only alternative medicine from scholarly circles, i.e. the medical practices of the lower strata, was freed from the authority and restrictions of conventional medical orthodoxy. Yet if we turn to some of the texts written by prominent Ming authors, we see that there are examples of medical thought and practice that are also unfettered by the ideas of orthodox theories. In addition, the Ming Dynasty was characterized by a diversity in medical thought which included concepts, publications, and the roots of "scientific-based" medicine of the West. The degree of acceptance by the "orthodoxy" was another matter entirely.

Searching Far Ahead

This section is a discussion about the impact of foreign exchange and the development of medical practices among China's minority groups during the Ming Dynasty. The Ming Dynasty experienced much contact with the

³²¹ Li. 1990. p. 239.

³²² Ibid. p. 263.

³²³ Unschuld. 1985. p. 211.

outside world through trade and through missionaries from the West and as such, was influenced to some degree by these exchanges. In addition, this fruitful period of medical thought was to witness continued improvements in acupuncture techniques, a practice which has continued to fascinate the West, starting from the early travelers to China during Mongol times.

Foreign Exchange and Influence:

Ideas within Ming China were not exclusively indigenous. From Yuan times, active trade had already allowed the exchange of medical ideas. Prior to the Yuan, the Sung and T'ang Dynasties were characterized by the transmission of indigenous practices and concepts to the outside world and the introduction of medications and pharmaceutical preparations from other parts of the globe to the Chinese.³²⁴ By the early fifteenth century, the great voyages of Cheng Ho had brought trade to even further distances. Still, at a time when China was considered quite advanced, the exchange brought more new medicinal plants than new ideas into China. Li Shih-chen's *Materia Medica* contained several examples of plant extracts which were brought from Europe and Africa.³²⁵ By the beginning of the sixteenth century, the Portuguese had begun to venture into the East Asian seas, followed soon after by the Spaniards, and the Dutch.³²⁶

The arrival of the first Catholic missionaries began in the middle of the sixteenth century; the most famous and successful was Italian Jesuit Matteo Ricci (1552-1610). Arriving in China in 1583, he was finally to settle in Beijing in 1601. While most foreigners were treated with suspect by the Chinese

³²⁴ Li. 1990. p. 285.

³²⁵ Ibid. p. 241.

³²⁶ Gernet. 1982. pp. 448-449.

authorities, Ricci was able to win over the literati by adopting the dress, the manners, and the classical culture of China.³²⁷ Aside from achieving success in evangelization, Ricci brought to China some of Europe's scientific and technical knowledge, particularly in mathematics, geography, and clockmaking. Ricci also brought with him a text which included medical reports that were later translated into Chinese as *Hsi Kuo Chi Fa* (西國記法), "Methods of the West."³²⁸ Ricci was the first of several Jesuits who would introduce Western ideas regarding anatomy, physiology, and pathology, despite the extent to which these ideas were ignored by medical orthodoxy during the Ming.³²⁹ Medical thinkers in the Ch'ing, however, would become skeptical of orthodox ideas and later adopt Western concepts of medicine.³³⁰ It is difficult to say how much influence Western ideas had on medical practitioners during the Ming. For example, Wang K'en T'ang, author of many medical texts during the Ming, was said to be very close to Ricci and to respect his ideas.³³¹

From as early as the T'ang Dynasty, exchange of ideas had been frequent with other Asian countries, particularly with Korea and Japan. The practice of acupuncture and the collection of medicinal prescriptions were often advanced by medical scholars in Korea and Japan who had originally come to China to study the techniques of acupuncture and moxibustion. One example was a Korean named Ching Li Meng (金禮蒙) who, in a collaborative effort with several physicians, put together a medical prescription reference during the fifteenth century which contained 365 volumes and used 153 different

³²⁷ Gernet. 1982. p. 450.

³²⁸ Li. 1990. p. 292.

³²⁹ Ibid.

³³⁰ Unschuld. 1985. pp. 212-215.

³³¹ Li. 1990. p. 258.

reference works including Taoist and Buddhist sources.³³² Collaboration was prevalent throughout the Ming, resulting in several international meetings where scholars, particularly from Korea, would meet with other Chinese scholars to discuss solutions to particular medical problems.³³³ The Chinese imperial physicians often served as ambassadors and medically aided these countries' leaders.³³⁴

Medicine of the Minority Groups:

Aside from experiences from foreign countries, the many minority groups in China, particularly in the northern and western regions developed medical practices which may not have garnered as much attention within Chinese medical writings. A diary by an unknown Ming author, Ma Yu (馬愈), sheds some light on the medical practices among a minority population in the West.³³⁵ Excerpts from this diary reveal eleven specific medications not native to China. Examples include plant extracts used to treat inflammation, miscarriage, placental retention, infected wounds, and gastrointestinal parasitic infections.³³⁶ Li Shih-chen's *Materia Medica* also includes several plant extracts from minority groups in several areas.³³⁷

Acupuncture:

The traditional techniques of acupuncture were further advanced and reached a height during the Ming Dynasty as evidenced by three important

³³² Li. 1990. p. 286.

³³³ Ibid. p. 287.

³³⁴ Ibid.

³³⁵ Ma, Yu (馬愈). Ma Shih Re Ch'ao (馬氏日抄), a section included in Yeh Shu Chi Ch'êng (叢書集成), edited by Wang Yun Wu (王雲五). 1936 edition. Commercial Publishing Co. (商務印書館). p. 14.

³³⁶ Ibid.

³³⁷ Li. 1990. pp.264-266

publications: Yang Chi Chou (楊繼洲)'s *Chen Chiu Ta Ch'eng* (針灸大成), "Great Accomplishments in Acupuncture," Kao Wu (高武)'s *Chen Chiu Chi Ying* (針灸聚英), "Important Acupuncture Experiences," and Hsü Feng (徐鳳)'s *Chen Chiu Ta Ch'üan* (針灸大全), "Encyclopedia of Acupuncture."³³⁸ Aside from these publications, the imperial government strongly favored acupuncture and wanted this technique as part of the medical education. Hence, the emperor decreed that all imperial physicians must pass another examination using Sung Dynasty's copper teaching models (see Figure 3).³³⁹ Yang Chi Chou, 1522-1620, was a scholar and later imperial physician. His *Chen Chiu Ta Ch'eng* summarized acupuncture theories and techniques and also included a discourse on moxibustion.³⁴⁰ This text, published in 1601, contained 10 volumes.³⁴¹ Kao Wu was credited for delineating different acupuncture points and creating the copper models for men, women, and children³⁴² as well as his text *Chen Chiu Chi Ying* which contain 4 volumes and included some of the best examples of acupuncture techniques.³⁴³ Finally, Hsü Feng's *Chen Chiu Ta Ch'üan*, comprising 6 volumes, included a historical summary about acupuncture.³⁴⁴ Of all three, Li Jingwei asserts that Yang's was the most comprehensive.³⁴⁵ (see figure 4)

Through the end of the Ming era and throughout the Ch'ing era, there would be an increase in foreign influences where the newly introduced concepts would soon cause traditional medicine to be questioned by scholars

³³⁸ Li. 1990. p. 263.

³³⁹ Ibid. p. 264.

³⁴⁰ Ibid. p. 266.

³⁴¹ Ibid.

³⁴² Ibid. p. 265.

³⁴³ Ibid.

³⁴⁴ Ibid.

³⁴⁵ Ibid. p. 266.

and elevate healing in China to a new plane.³⁴⁶

Ethics:

There is perhaps no complete definition of ethics, rather a composition of partial paradigms. Codes of ethics are formulated when there exists the possibility that resources may be used in a manner unfavorable to all parties concerned. That is, based on available resources, the code of conduct, rules, and consequences for utilization by all interested parties must be acceptable to all parties concerned. With regard to medical ethics in China, Unschuld asserts that the physicians' development of a formulated code of ethics stems from the medical resources available.³⁴⁷ An example is that without an established code of conduct, there exists the risk that injury or death of a patient may be suspected of premeditation.³⁴⁸ That is, for the purpose of monetary gain, a physician may choose to misrepresent a patient's condition in order to satisfy another party's wishes. Unschuld writes of three major mechanisms of protection developed: first, at the level of magicians, the responsibility for the outcome could be viewed as the will of supernatural powers; second, prognosis allows a practitioner to make impressive forecasts of the progress of an illness (or separate curable from incurable); and third, formulated or professional ethics, the ethics of group pressure, provides an emphasis which would allow the public to shift focus from the outcome of a medical activity to its process.³⁴⁹

As discussed earlier, there were several classes of physicians in China

³⁴⁶ Unschuld. 1985. p. 215.

³⁴⁷ Unschuld. 1979. p. 12.

³⁴⁸ Ibid.

³⁴⁹ Ibid. pp.12-13.

ranging from the *ju-i* (儒醫, "Confucian medical scholar") to the *yung-i* (庸醫, "common physicians"). As the infrastructure of medicine developed in China, the politically-motivated conflict between the Confucians, Buddhists, and Taoists over medical resources and the conflict between the "Confucian medical scholar" and other practitioners continued unabated throughout the different dynasties. Much of the writings of Confucian scholars were intended to discourage the public from trusting the independent physicians, demonstrating an effective attempt to control medical resources.³⁵⁰

When compared to their independently practicing colleagues, Confucian medical doctors were fully supported by the Confucian paradigm in that, theoretically, they were destined to serve the private needs of the family first and a few extra clients second.³⁵¹ The Confucian paradigm was based on the notion that if medical education was part of the classical education, no need for specialization would result and each Confucian family would be cared for. Yet, obviously, this form of medicine could not satisfy all the needs of the population, allowing other physicians to continue their practice of medicine. To establish control, Confucians, shifted focus to creating the moral and knowledge standard for a "great physician" via comprehensive exams and an increased emphasis on the *ju-i* ("Confucian medical scholar") as distinct from the *yung-i* ("common physician").³⁵² The evidence for this reaction were the numerous texts written by Confucian scholars (philosophers, officials, and educators alike) throughout the dynasties regarding the "ethics" of physicians.

350 Unschuld. 1979. p. 23.

351 Ibid.

352 Ibid. pp. 21-23.

Ming writers who were included among these “debates” included Wang K'en-T'ang (1549-1613) and Ch'en Shih-kung (1555-1636). Their writings reflect in part the conflict among Confucian official physicians, Confucian medical scholars outside of the medical civil service, and independently practicing physicians, as well as the attempt to raise the “ethical standard” of medical practice. It was within the interest of these groups, Confucian or independent, to divert the attention of the public from the outcome of their activity to the actual process (ethical standard).³⁵³ Unschuld writes that Wang was also among that group of Confucians who opposed the “common physicians,” but within the group, opposed the Confucians themselves.³⁵⁴ Wang became interested in prescriptions and the study of pharmacy during his mother’s illness, an event which worried his father that he would give up a civil service career in favor of medical practice. Wang, instead, achieved the highest tier of scores and was assigned an administrative position in Fujian Province, wherein he was able to continue to pursue his medical interests. He became contemptuous of the mass of physicians who were practicing during his lifetime, and in one of his works, *Shang-han chun-sheng* (傷寒準經), “Standards on Cold-Induced Illness”, he writes in the preface about the praiseworthy resource of medicine, but criticizes use of these resources by “mediocre physicians” or *chung-i* (中醫).³⁵⁵

Ch'en's ethics however, according to Unschuld, agree largely with a group of practicing Confucians who tried to raise the value of medical practice, but “he appears to belong to the group ... [of] those physicians who

353 Unschuld. 1979. p. 24.

354 Ibid. p. 67.

355 Ibid.

practice for profit but who nevertheless number themselves in the class of Confucian physicians."³⁵⁶ Ch'en did not discriminate between an elite core group and other physicians, rather he urged a continuing education for physicians with several guidelines.³⁵⁷ In his "Five Admonitions to Physicians", he calls for physicians to treat patients equally, regardless of wealth or status, and to always remain within the vicinity to aid patients.³⁵⁸ In addition, he gives concrete statements about caring for women (requiring a companion, never discussing the intimate details even in the presence of the physician's wife) and dealing with the care of prostitutes.³⁵⁹ As for his "Ten Maxims for Physicians", he advocates the review of medical texts, familiarity with Confucian principles and medicinal drugs, professional courtesy with colleagues and patients, maintaining frugality, treating the poor or distressed (even if Buddhist or Taoist) *gratis*, maintaining drugs and instruments in flawless condition, not flattering officials, and finally, investing savings in real estate.^{360, 361}

356 Unschuld. 1979. p. 76.

357 Ibid.

358 Li. 1990. p. 284.

359 Unschuld. 1979. pp. 77-78.

360 Li. 1990. pp 284-5.

361 Unschuld. 1979. pp. 78-80.

Conclusion

Intellectual life during the Ming Dynasty was anything but empty or sterile.³⁶² Instead, creative tensions were at the heart of the intellectual ferment which characterized this period of comparable peace and economic and political stability. Undergoing a transformation similar to that which was experienced during the Sung Dynasty, Ming scholars reexamined and modified the religious and philosophical ideologies of Neo-Confucianism, Buddhism, and Taoism. Crafts and literature experienced a similar revival, producing silk works, porcelain, tapestry, calligraphy, and a new urban literature, the prose novel. In addition, the Ming witnessed maritime exploration and an international exchange of ideas and products.

The Ming Dynasty was also characterized by an imperial court where absolutism was the dominant feature and hostility commonly seen toward the scholar-gentry class. Although the emperors of this era were considered cruel despots, their antagonism rarely extended beyond the confines of the court.³⁶³ This situation, coupled with the urban prosperity of the early Ming, caused many individual scholars and artists to distance themselves from the imperial court to pursue independent directions in thought and expression.

The current of independent thinking could be considered both a freedom from the constraints of the political state and a reaction to prove a moral superiority over submission to court authority. The emergence of several independent schools of art, particularly in Suchou, and the trend to express philosophical ideas through landscape imagery were examples of the creativity spawned from this atmosphere. For example, the poet-painter, Tung Ch'i-chang (董其昌), 1555-1636, led a school of art which produced a

³⁶² DeBary. 1970. p. 3.

³⁶³ Fairbank. 1989. p. 184.

new style of painting: spontaneity of brushwork that was free from court control.³⁶⁴

Medical thought during the Ming also adhered to the general intellectual trends of the time, namely the pursuit of individual solutions and ideas. As discussed previously, medical thinking at this time produced a “blossoming for the first time in a multiplicity of individual approaches and new interpretations of the ancient classics that far surpassed those of previous centuries.”³⁶⁵

During the Sung Dynasty, intellectuals had gained the legitimate opportunity to explore individual viewpoints about the surrounding world, when Chu Hsi’s philosophical exhortation to “investigate things in order to understand things” became the accepted scholarly creed. Through this endorsement, individual scholars could propose new ideas and criticize past views, all under the guise of “correct” interpretation of the classics.³⁶⁶ Although this motto was reinstated during the Ming Dynasty, it experienced a modification which produced an increase in new ideas. The statesman, Wang Yang-ming, extended Chu Hsi’s original philosophy to advocate action (“understanding the innate knowledge of man will lead to morally correct action”), which produced a concept that soon supplanted the original Sung innovation.³⁶⁷ Wang Yang-ming and other Ming thinkers diverged from Chu Hsi by perceiving the reality of environmental phenomena as already preexisting in the human mind and spirit and hence, in order to achieve this true wisdom, borrowed many different techniques from other sources (e.g.

³⁶⁴ Michael, Franz. China Through the Ages: History of a Civilization. Westview Press, Inc. Boulder, Colorado. 1986. p. 153.

³⁶⁵ Unschuld. 1985. p. 195.

³⁶⁶ Ibid.

³⁶⁷ Ibid.

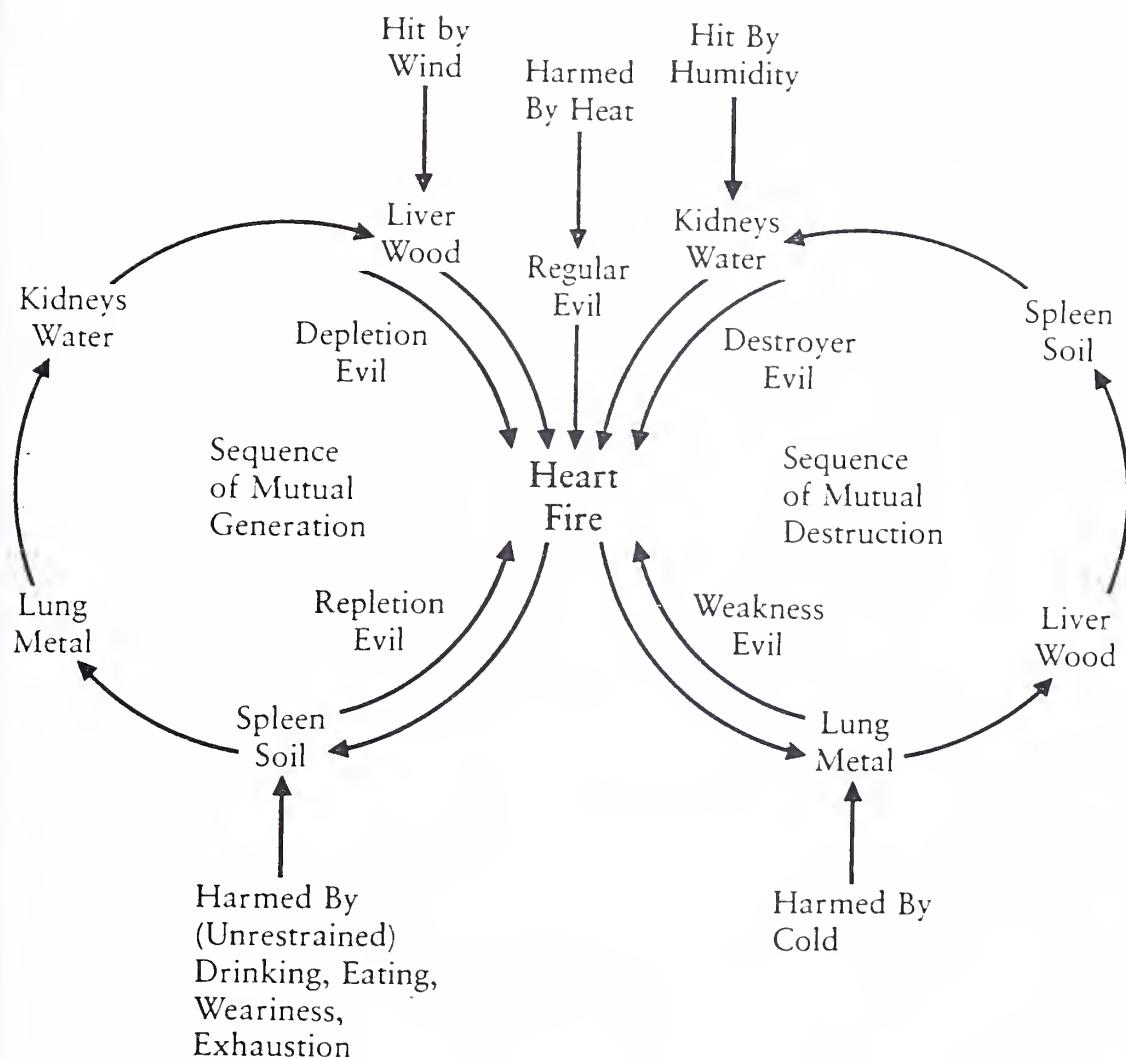
Ch'an Buddhism). Since the objective was to attain this wisdom, Ming medical thought as well as the other intellectual trends ignored the lines of demarcation among the different philosophies. Hence, there emerged a trend toward syncretism unlike any before. Although not every scholar or practitioner was concerned with such objectives, the intellectual atmosphere created allowed new ideas to come into fruition.

For medical thought, there emerged theories and reinterpretations of the classics, of conventional medical orthodoxy, of supernatural or metaphysical concepts, of demonology, and of pragmatic experience. The intellectual, political, economic, and social forces continued to add elements to these different theories as well as import some new ideas and products from outside China. The spectrum of conceptual approaches and ideas which blossomed during the Ming Dynasty was enormous, but with each decade, the ideas became more and more divergent, with no single theory gaining enough support to supplant all the others.³⁶⁸ The very climate which had fostered this abundance of diverse thinking still remained within the confines of a Confucian social order, making it difficult for any one idea to change the orthodoxy. The conflicting views which emerged during this period would never attain enough common ground before the collapse of the empire. These ideas, as a whole, would only experience scrutiny and even rejection as foreign influences increased dramatically during the Ch'ing Dynasty (1644-1911).

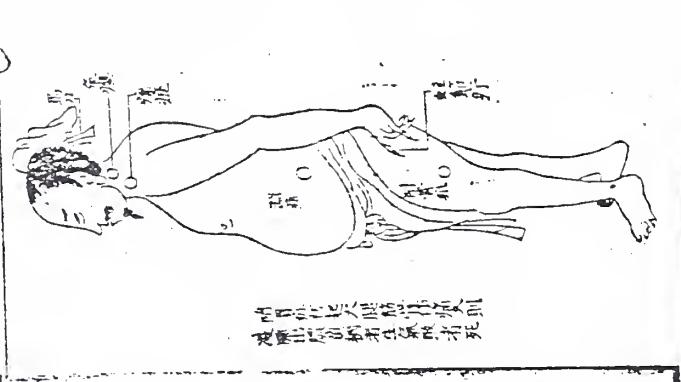
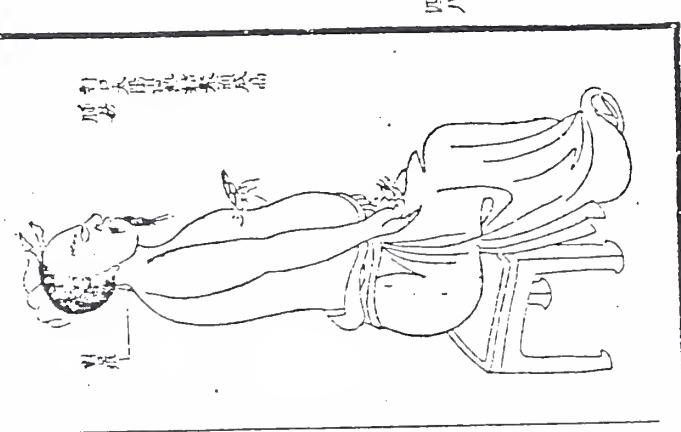
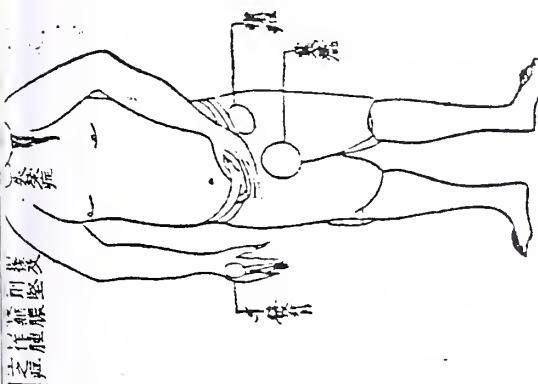
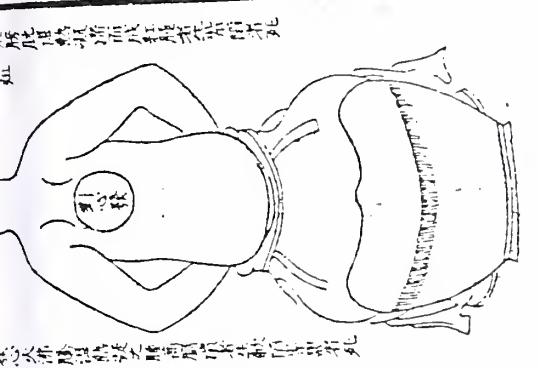
Having explored the sociopolitical framework of the Ming Dynasty and the many conceptual approaches to medical thought, this paper hopes that one may have gained some insight into the remarkable intellectual creativity

³⁶⁸ Unschuld. 1985. p. 197.

which characterized this period in history.



From Paul Unschuld's Medicine in China: A History of Ideas, 1985.



Anatomical Diagrams from Ch'en Shih-kung's "Basic Surgical Principles" casebook (published during the early 17th century)

Figure 2.1

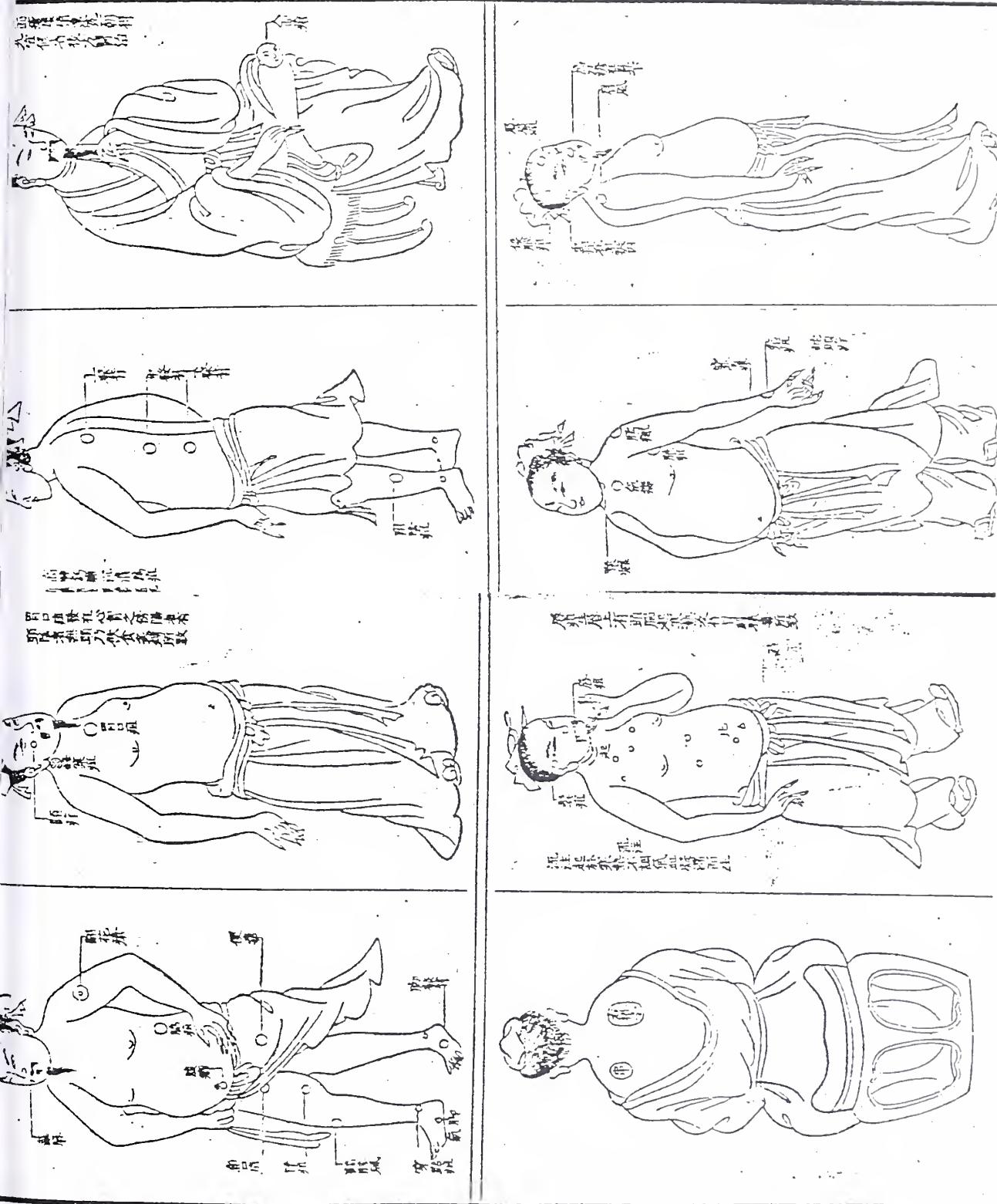


Figure 2.2

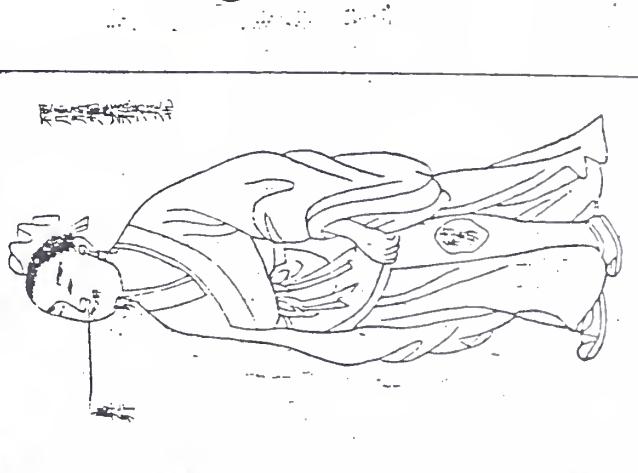
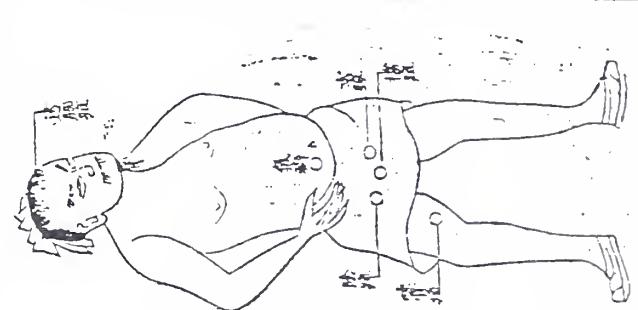
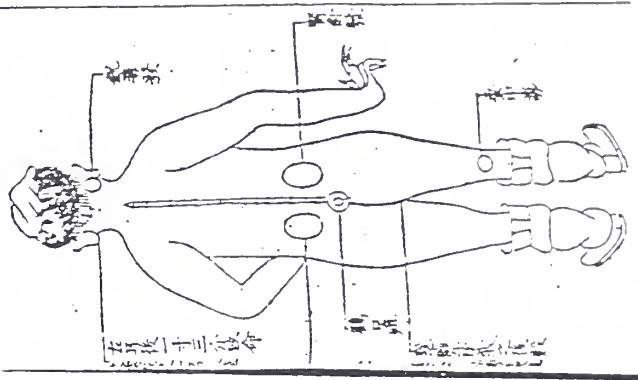
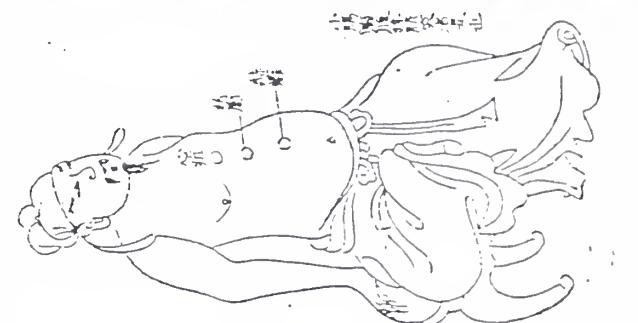
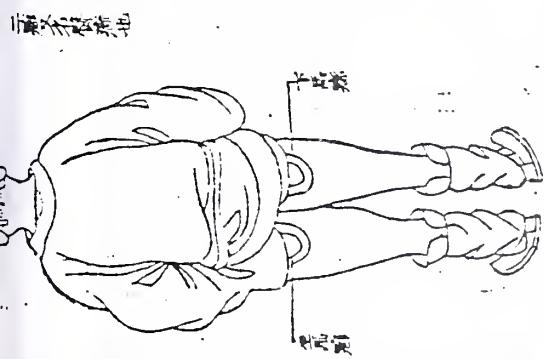
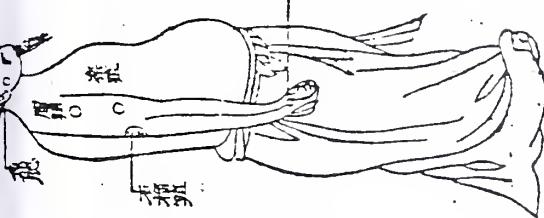
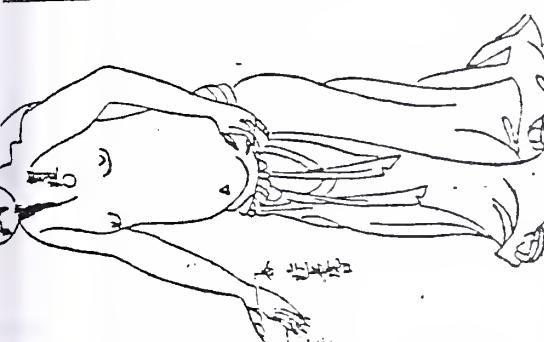
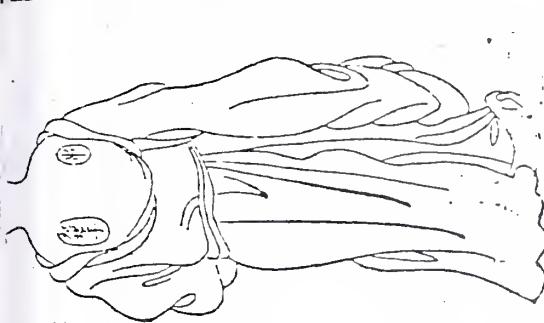


Figure 2.3

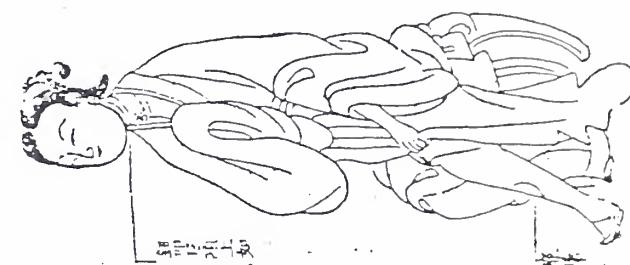
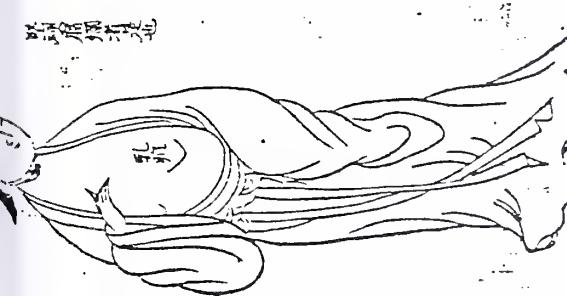
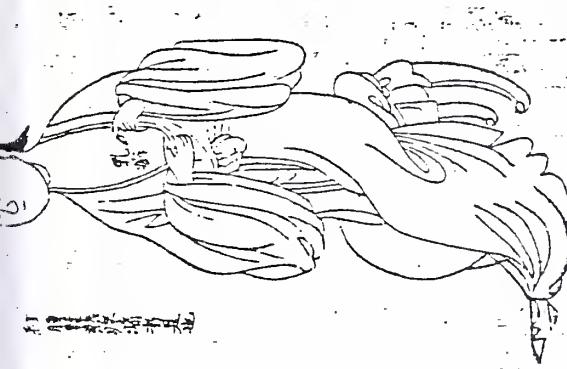
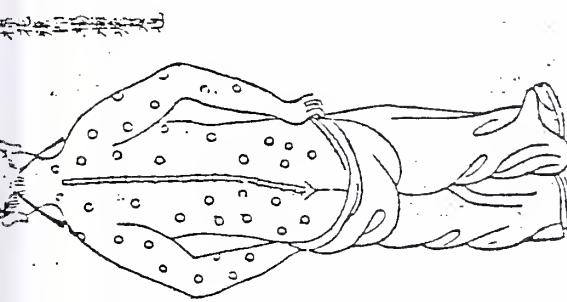
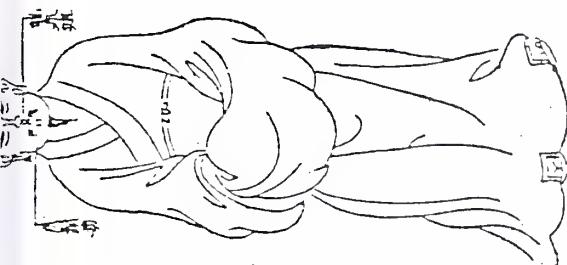
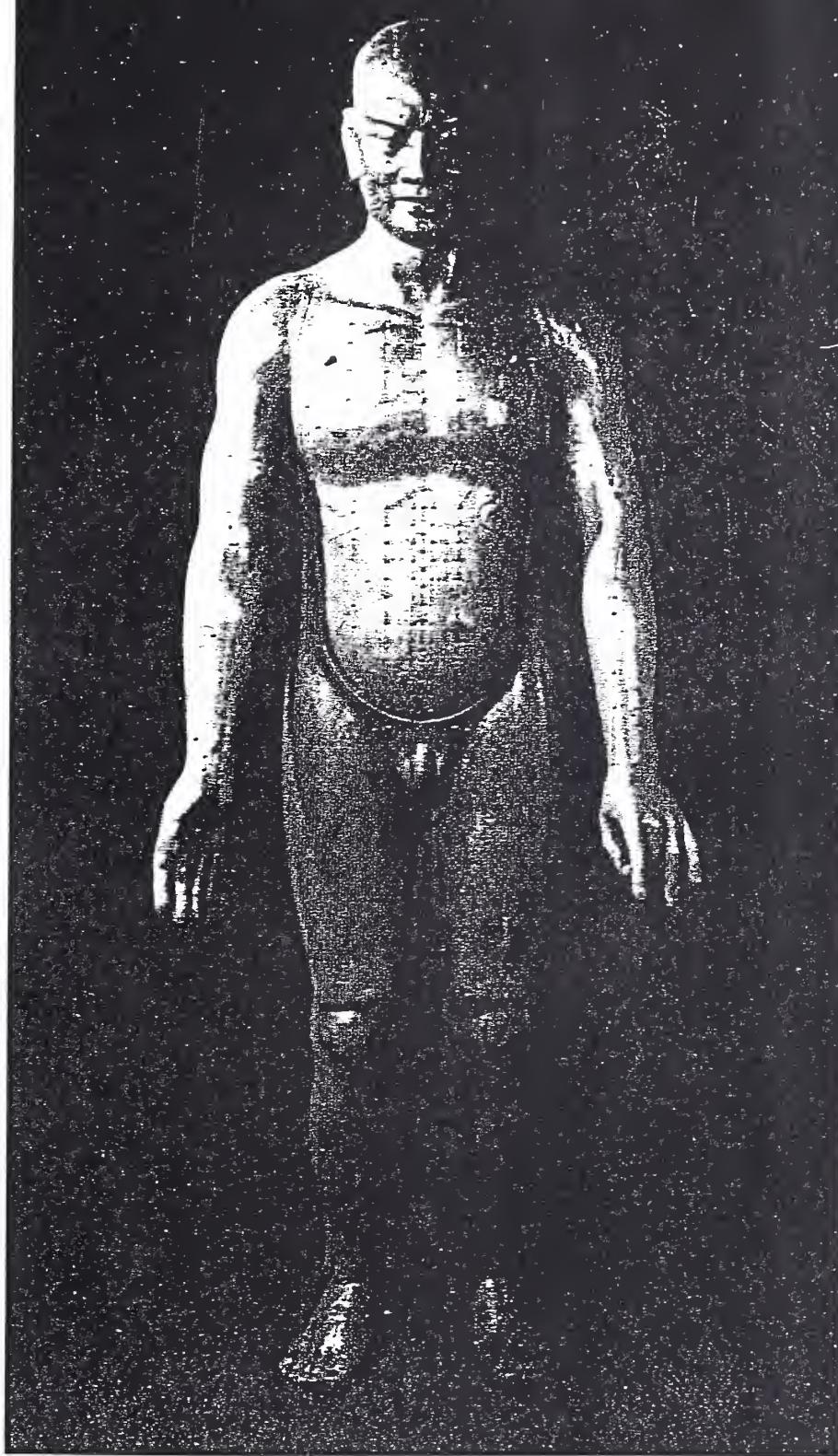


Figure 2.4



宋代天圣针灸铜人 (复原件)

Bronze statue for acupuncture and
moxibustion cast in Tian Sheng
period (Northen Song Dynasty)

Photo from The China Museum for the History of Medicine, Beijing, China

Reproductions from the Ming Tang Jing Mai Tu paintings by Huang Gu ()
(painted during the early Ch'ing Dynasty, 1644-1911)

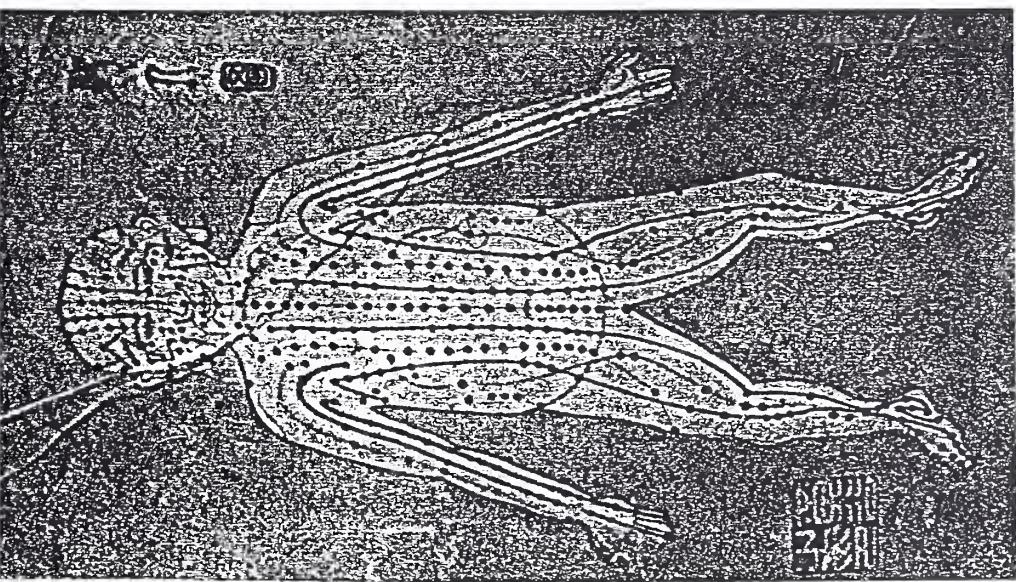
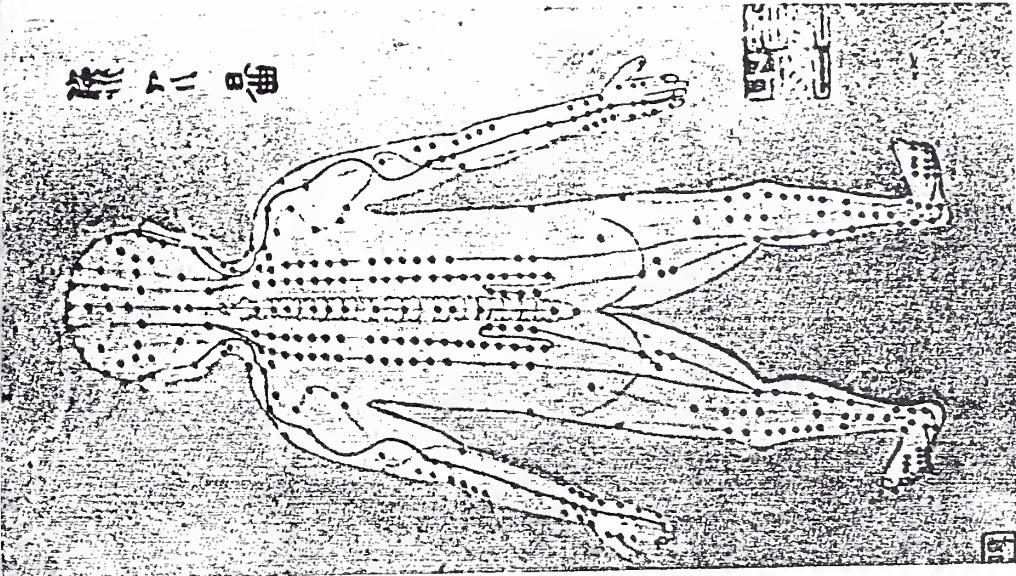
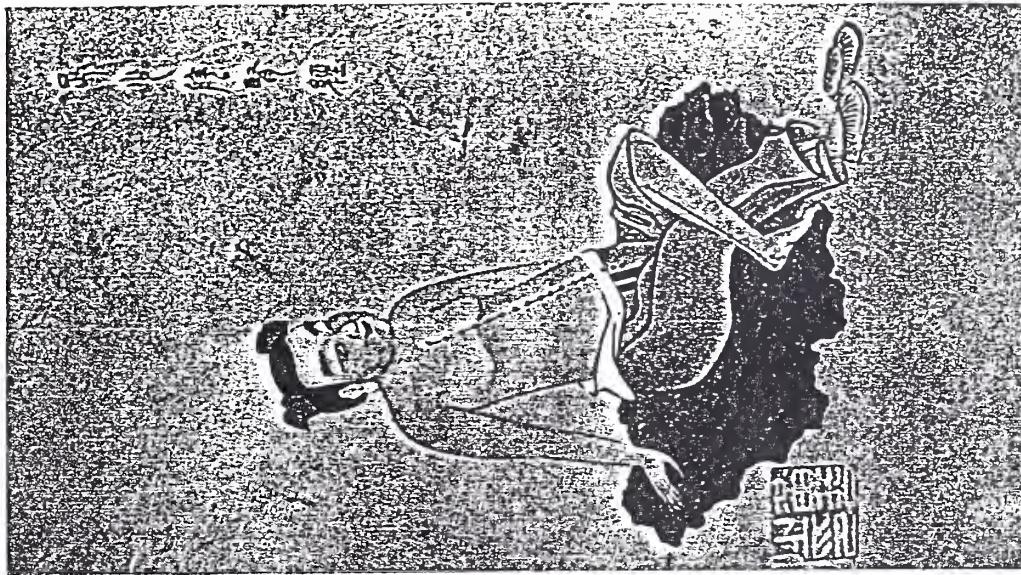
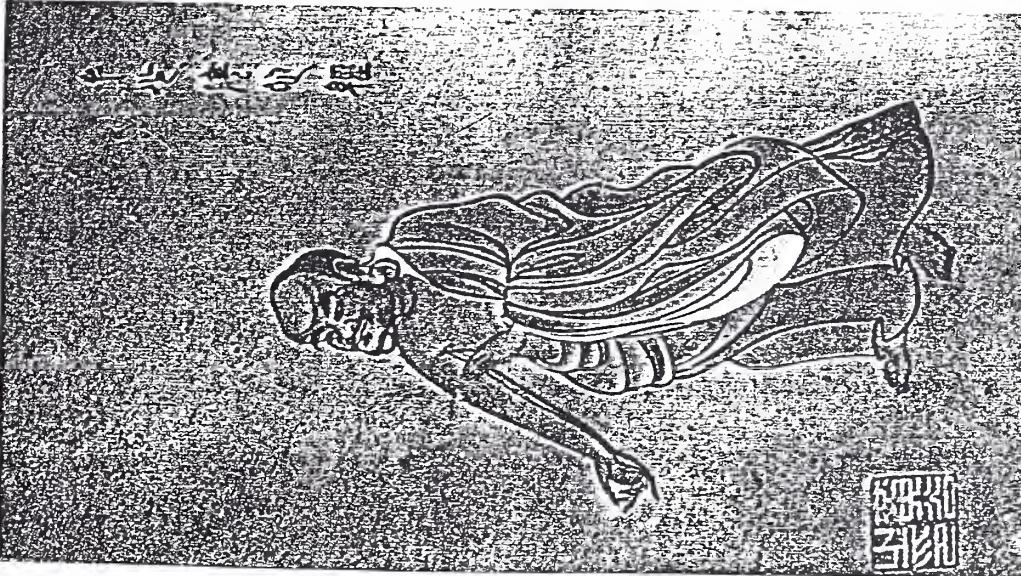


Figure 4.1



The Kidney Channel of Foot-Shaoyin: 14 stations from the little toe running along the median medianis. Then it proceeds along the posterior-medial aspect of the leg and thigh to the vertebral column, where it enters the kidney, its pertaining organ and connects with the urinary bladder. The main portion of the channel re-emerges from the kidney. Ascending and passing through the diaphragm, it enters the lung, runs along the frontal and terminates at the root of the tongue. A branch originates from the lung, joins the heart and links with the Pericardium channel of Hand-Jueyin. There are 27 acupoints along the channel which are indicated for diseases of the urinary and reproductive, respiratory, digestive and circulatory systems.



The Heart Channel of Hand-Shaoyin: It originates from the heart, passes through the diaphragm to connect with the small intestine. The branch runs upward along side the esophagus in connection with the eye system. The main portion of the channel from the heart system goes upward to the lung, then goes transversely out of the nostril. From there it runs down along the ulnar side of the upper arm and forearm to the palm, then region and enters the palm. Then it follows a line median aspect of the middle side of the little finger to the nail and links with the Small Intestine channel of Hand-Taiyang. There are 26 acupoints along the channel which are indicated for diseases of chest-heart, diseases of circulatory system, pain, nervous and mental disorders.

GLOSSARY

Ch'an Buddhism: a Buddhist sect known more commonly to the West in its Japanese form, *zen*; a sect which took shape in China during the eighth century by rejecting the long advocated ascetic training and rigorous study of the scriptures of Buddhism and aimed at sudden illumination achieved through detachment of the mind and meditation techniques; remained one of the most long-live sects of Buddhism in China

***ch'i*:** defined as “vital energy”; this “energy” is analogous to the concept of lifeforce, but is believed to be housed in different areas of the body and traverses along several pathways or meridians, giving nourishment and energy to these areas; these meridians are the same as where acupuncture points are based; several different techniques are utilized to tap into this energy, e.g. *chi-gong*, *wu su*, and *t'ai chi quan*

demonic medicine (demonology): belief that demons (*kuei*) exert harmful influences upon, thus requiring exorcists designed to expel these spirits; this concept finds its roots from the Shang Dynasty (16th-11th century B.C.); endorsed as part of the orthodoxy during the Warring States Period (475-221 B.C.)

etiological reductionism: ascribing causes of illness to only a set few of etiological causes (i.e. natural elements or behavior); one philosophical “school” of medical thought found throughout Chinese history

systematic correspondence: a theory that most, if not all, natural occurrences and abstract concepts can be incorporated into a single system of correspondence; composed of five elements: (1) magical beliefs in the unity of nature, (2) yinyang + Five Phases theories, (3) concept of demonic medicine, (4) concepts of finest matter influences as basis of life, and (5) certain structural characteristics of united empire; based on a belief that illness could be avoided by means of appropriate way of life; a theory established during the Warring States period which reflects the ideas and sociopolitical structures resulting from efforts to overcome the political chaos and subsequent conditions accompanying the first unification of China

***yang yin*:** to nourish *yin*; established by Tai Ssu-kung (1322-1405); a theory based on the notion that a deficiency in *yin* influences was the primary cause of human illness; therapy is to correct the imbalance by supplying *yin* influences

yin/yang and Five Phases: see pages 58-59 in text

BIBLIOGRAPHY

1. Ch'en, Meng Lei (陳夢雷). Ku Chin Tu Shu Chi I Pu Ch'üan Lu (古今圖書集成醫部全錄). 1962 edition (original published during Ch'ing Dynasty). People's Hygiene Publishing Co. (人民衛生出版社影印). Beijing, China. vol. 12. pp. 430-431, pp. 434-435.
2. Ch'en, Shih-kung (陳實功). Wai K'o Cheng Chung (外科正宗). 1956 edition (first edition published in early 17th century). People's Hygiene Publishing Co. (人民衛生出版社). Beijing, China.
3. Chiang, Kuan (江瓘). Ming I Lei An (名醫類案). 1957 edition (first edition published in 1591). People's Hygiene Publishing Co. (人民衛生出版社影印). Beijing, China.
4. Davis, Richard. lecture notes from "Introduction to East Asian Civilizations: China". Taught at Brown University. Providence, Rhode Island. fall semester, 1990.
5. DeBary, Wm. Theodore. Self and Society in Ming Thought. Columbia University Press. New York, New York. 1970.
6. Fairbank, John K. and Reischauer, Edwin O. China: Tradition and Transformation. Houghton Mifflin Company. Boston, Massachusetts. 1989.
7. Gernet, Jacques. (translated by J.R. Foster). A History of Chinese Civilization. Cambridge University Press. Cambridge, England. 1972.
8. Li, Jingwei and Li, Jidong. Chung Kuo Ku Tai I Hsüeh Shih Lueh (中國古代醫學史略). Hebei Science and Technology Publishing Co. (河北科學技術出版社). Beijing, China. 1990.
9. Li, Jingwei and Fu, Fang. Chung I Jen Wu Tzu Tian (中醫人物詞典). Shanghai Dictionary Publishing Co. (上海辭書出版社). Shanghai, China. 1988.
10. Ma Yu (馬愈). compiled and edited by Wang, Yun Wu (王雲五). "Ma Shih Re Ch'ao" (馬氏日抄), a section of Yeh Shu Chi Cheng (叢書集成). Commercial Publishing House. (商務印書館). Shanghai, China. 1936 edition (original published during Ming Dynasty).
11. Michael, Franz. China Through the Ages: History of a Civilization. Westview Press, Inc. Boulder, Colorado. 1986.
12. Needham, Joseph. Science and Civilization in China volumes I, II, and

V/2. Cambridge University Press. Cambridge, England. 1956.

13. Roberts, Moss (translator) Three Kingdoms: China's Epic Drama (written by Lo Kuan-chung). Pantheon Books. New York, New York. 1976.

14. Summers, William C. "Congruences in Chinese and Western Medicine from 1830-1911: Smallpox, Plague and Cholera." Yale Journal of Biology and Medicine. Yale University Press. New Haven, Connecticut. 1994. vol 67: pp. 23-32.

Berling, Judith A. The Syncretic Religion of Lin Ch'ao-en. Columbia University Press. New York, New York. 1980.

15. Unschuld, Paul U. Medical Ethics in Imperial China: A Study in Historical Anthropology. University of California Press. Berkeley and Los Angeles, California. 1979.

16. Unschuld, Paul U. Medicine in China: A History of Ideas. University of California Press. Berkeley and Los Angeles, California. 1985.

17. Unschuld, Paul U. "Traditional Chinese Medicine: Some Historical and Epistemological Reflections". Social Science and Medicine. Pergamon Journals, Ltd. England. 1987. vol. 24, no. 12. pp.

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